CIO

BUSINESS TECHNOLOGY LEADERSHIP

www.cio.com

June 15, 2012 $9.00

HADOOP TO THE RESCUE
ComScore tames a torrent of data **13**

HOW TO GET STRATEGIC CRED
3 skills you need to join the inner circle **18**

FROM SILOS TO SERVICES
Aetna revamps enterprise architecture **20**

CAN GOOGLE APPS UNSEAT OUTLOOK?
A pilot test reveals some surprises **26**



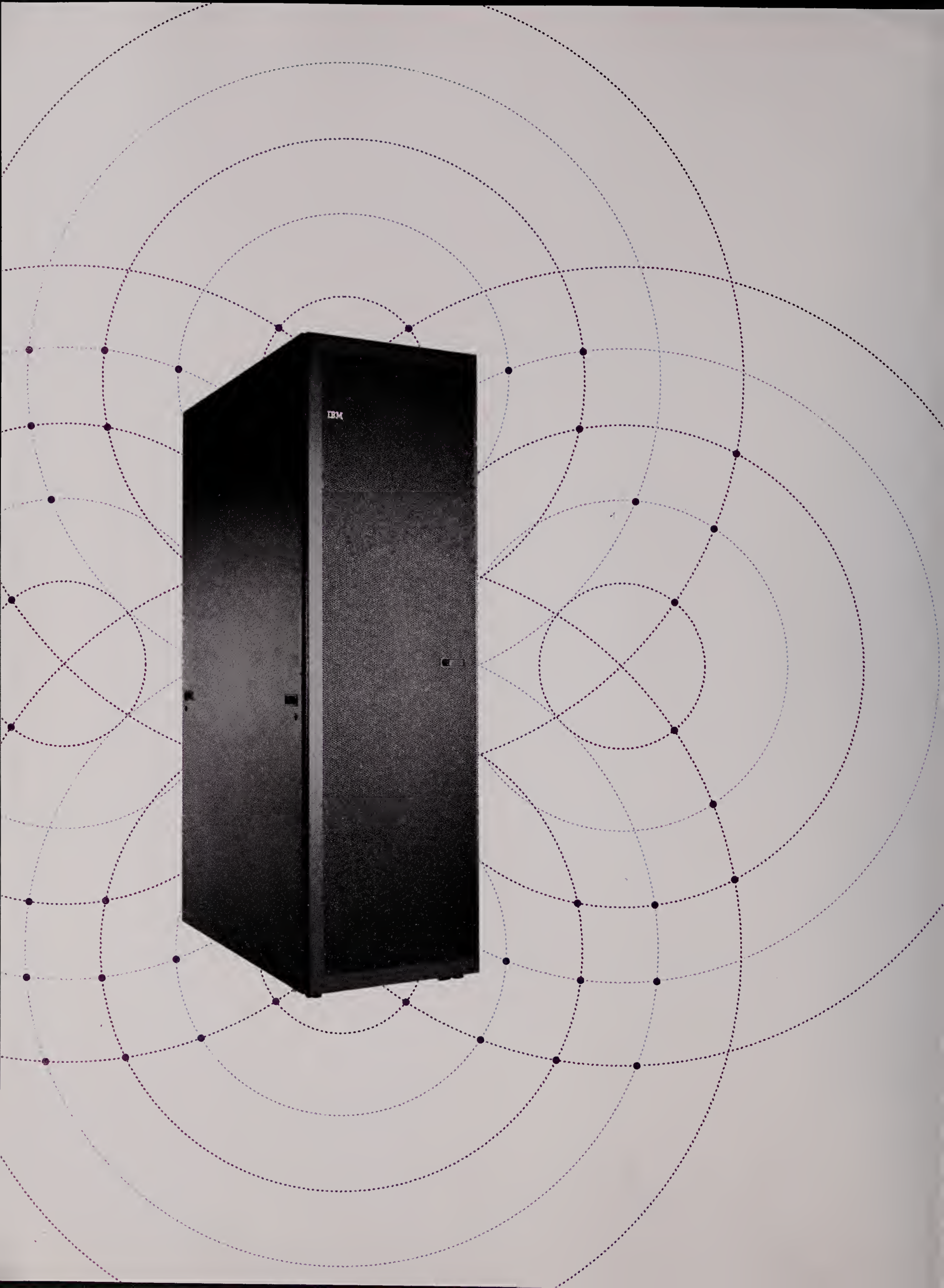
Unlikely Allies

CIOs and CMOs must **overcome** their **differences** and learn to **collaborate. Here are 6 tips for forging a partnership with marketing.** **28**

BY MINDA ZETLIN

PLUS

Hands-On Data Manipulation
Boeing uses the interface seen in *Minority Report* **16**


IBM

Virtualize, the plug-and-play way.

With numerous hardware, software and networking options to choose from, virtualization can be a really complex process. The new IBM BladeCenter® Foundation for Cloud with Intel® Xeon® processors changes all that, dramatically.

It's a workload-ready platform with built-in management, so it's quick to deploy and easy to manage. Also, the system integrates seamlessly with your existing infrastructure. So you can get started at once, without wasting precious resources.

In addition, you have the option to transition to the cloud on your terms, not on your vendor's. For improved business agility and reduced IT costs, look to the IBM BladeCenter Foundation for Cloud.

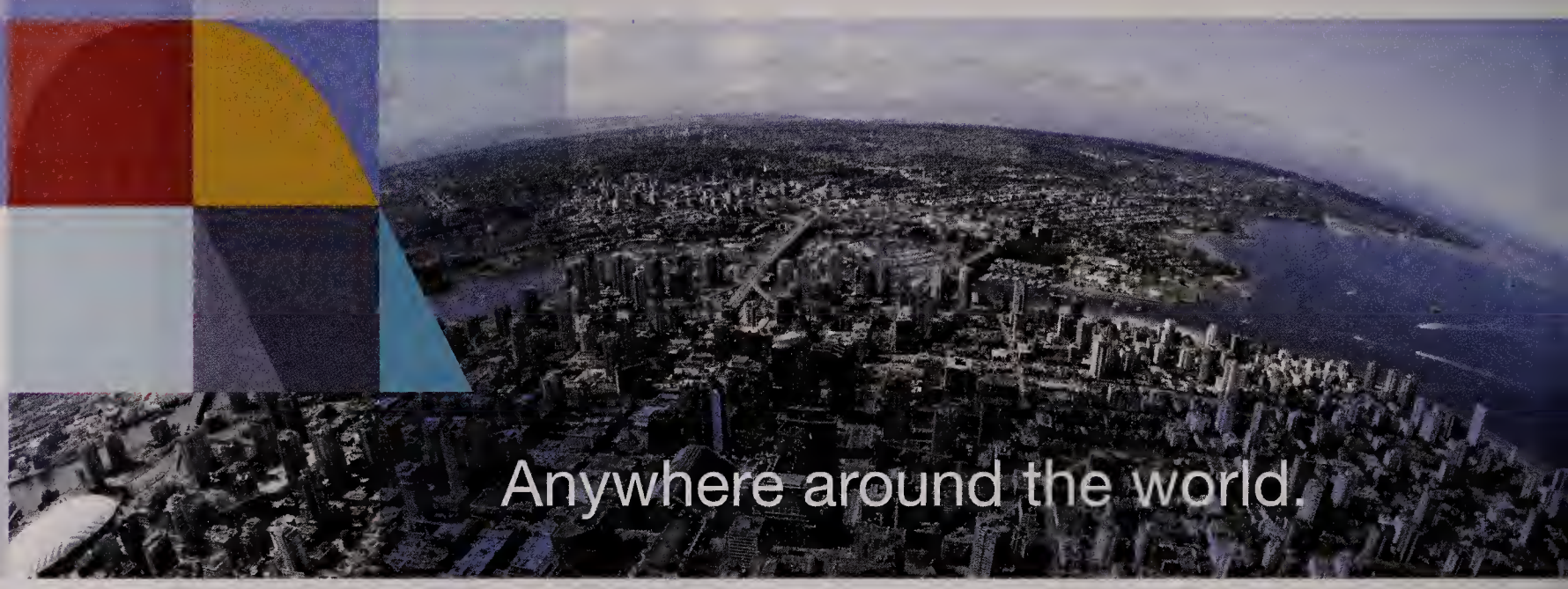
Take 10 minutes to see for yourself.

See how the IBM BladeCenter Foundation for Cloud makes things easy for you. Visit ibm.com/systems/foundation

IBM, the IBM logo, ibm.com and BladeCenter are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at www.ibm.com/legal/copytrade.shtml. Intel, the Intel logo, Xeon and Xeon Inside are trademarks of Intel Corporation in the U.S. and other countries.
© International Business Machines Corporation 2011. All rights reserved.



Introducing NTT DATA Americas.
Your Innovation Partner.



Seven companies integrated as one NTT DATA Americas team.

AgileNet | Intelligroup | Keane | MISI Company | NTT DATA International | The Revere Group | Vertex Software

Every day around the world NTT DATA helps companies of all sizes to flex their businesses, enabling them to capitalize on opportunities and manage risk faster and more efficiently. We have the technology know-how, industry insight, and global reach you need to navigate changing conditions.

We deliver impactful results. Not endless timelines, overblown budgets, or unattainable promises.

- Consulting
- Application Services
- Infrastructure Services
- Cloud Services
- Business Process Outsourcing
- Strategic Staffing

NTT DATA
Global IT Innovator

Learn more. www.nttdata.com/americas

VOLUME 25, NO. 13 June 15, 2012

Start

From the Editor in Chief **4**
Chatter **4**
From the CEO **6**
World View **8**
Quick Fix **10**



4



13

Grow

INNOVATION & BUSINESS VALUE

Hadoop cuts mountains of data down to size **13**
New smartphones could move to the beat **14**
Sci-fi computers become reality at Boeing **16**
How to get your strategic skills recognized **18**
Chevron's CIO gives advice on transformation **19**

Run

LEADERSHIP & OPERATIONAL EXCELLENCE

Aetna's enterprise architecture overhaul **20**
Get five quick pointers on privacy policies **22**
Why IT is key to the customer experience **24**
Chip designer slashes data centers **24**
Can you replace Outlook with Google Apps? **26**



20



36

Finish

Index **34**
New app tails whales **36**

Unlikely Allies

28

COVER STORY CIOs and CMOs must overcome their differences and learn to collaborate. Here are 6 tips for forging a partnership with marketing.

BY MINDA ZETLIN



At Digi-Key, CMO **Tony Harris** (left) and CIO **John Collins** tell their teams that they're jointly responsible for the customer experience.

COVER ILLUSTRATION BY NIGEL BUCHANAN



FROM THE
EDITOR IN CHIEF

CIO-CMO Reboot

If you had to pick the department at your company that's most likely to be engaging in a little rogue IT, which one would you suspect? I'll bet most of you just muttered "marketing," possibly with an expletive modifier.

Armed with their corporate credit cards and pressured by whacked-out deadlines, those creative right-brainers are a favorite target for the endless array of cloud vendors eager to replace your IT department.

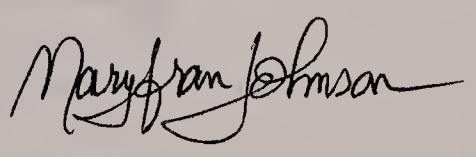
"Marketing sees IT as the land of *slow* and *no*. And IT sees marketing as unguided missiles," says Frank Cutitta, CEO of the Center for Global Branding and a research associate for the CSC Leading Edge Forum, an IT think tank. He recently spent six months interviewing pairs of CIOs and CMOs about their working relationships and found that only 40 percent were moving in a positive direction. The majority were either stuck in a holding pattern or actively deteriorating. That's a bit discouraging in an era of business change that revolves around mobile, social, cloud and consumerized IT.

But as you'll read in our cover story ("Unlikely Allies," Page 28), there are a number of relatively painless, practical steps CIOs can take to build a bridge over that historic divide between IT and marketing. Some of the tactics will be old familiar friends, like sharpening your mutual customer focus or creating cross-functional teams. But others are more counterintuitive, like deliberately ceding IT control to the marketing team or taking part in interviews of the candidates seeking jobs in each other's departments.

One CIO practitioner of this more enlightened attitude toward CMOs is John Murray at Genworth Financial Wealth Management. He and his CMO, Myra Rothfeld, have worked out an ideal balance of communication, risk management and speed-to-market collaboration. "I have empathy for what drives her business," Murray says. "And she has empathy that if we get hacked, no one is going to call the CMO."

What I especially liked in our story was the checklist of items we ran online that reveals how well your own CIO-CMO relationship is working (see *www.cio.com/article/706773*). Are you funding projects jointly? Are you managing vendors together to cut better deals? Are you producing more tech-intensive products together? Are you marketing well across multiple channels?

Whatever the state of your current CIO-CMO partnership, this could be the perfect time to reboot that relationship.



Maryfran Johnson, Editor in Chief, *CIO* Magazine & Events
mfjohnson@cio.com

CHATTER

On Second Thought

CIO.com columnist Bernard Golden thinks that given the complexity of today's applications, it's folly to suggest that **the future role of the CIO** is less technical and more businesslike. If anything, the situation is reversed–**the business side should embrace technology.**
www.cio.com/article/706650

Trending Tech

Contributing Writer Jeff Vance attended **Interop 2012** last month and brought back a handful of important takeaways for CIOs. Vance says **interoperability is making a comeback** with the emergence of new computing models, such as cloud. He highlights vendors that are making **security part of the fabric of the technology** itself, instead of incorporating it only at the network level. Vance's other findings include that the **cloud is becoming a commodity** and that **DNS vulnerabilities** can no longer be ignored.
www.cio.com/article/706342

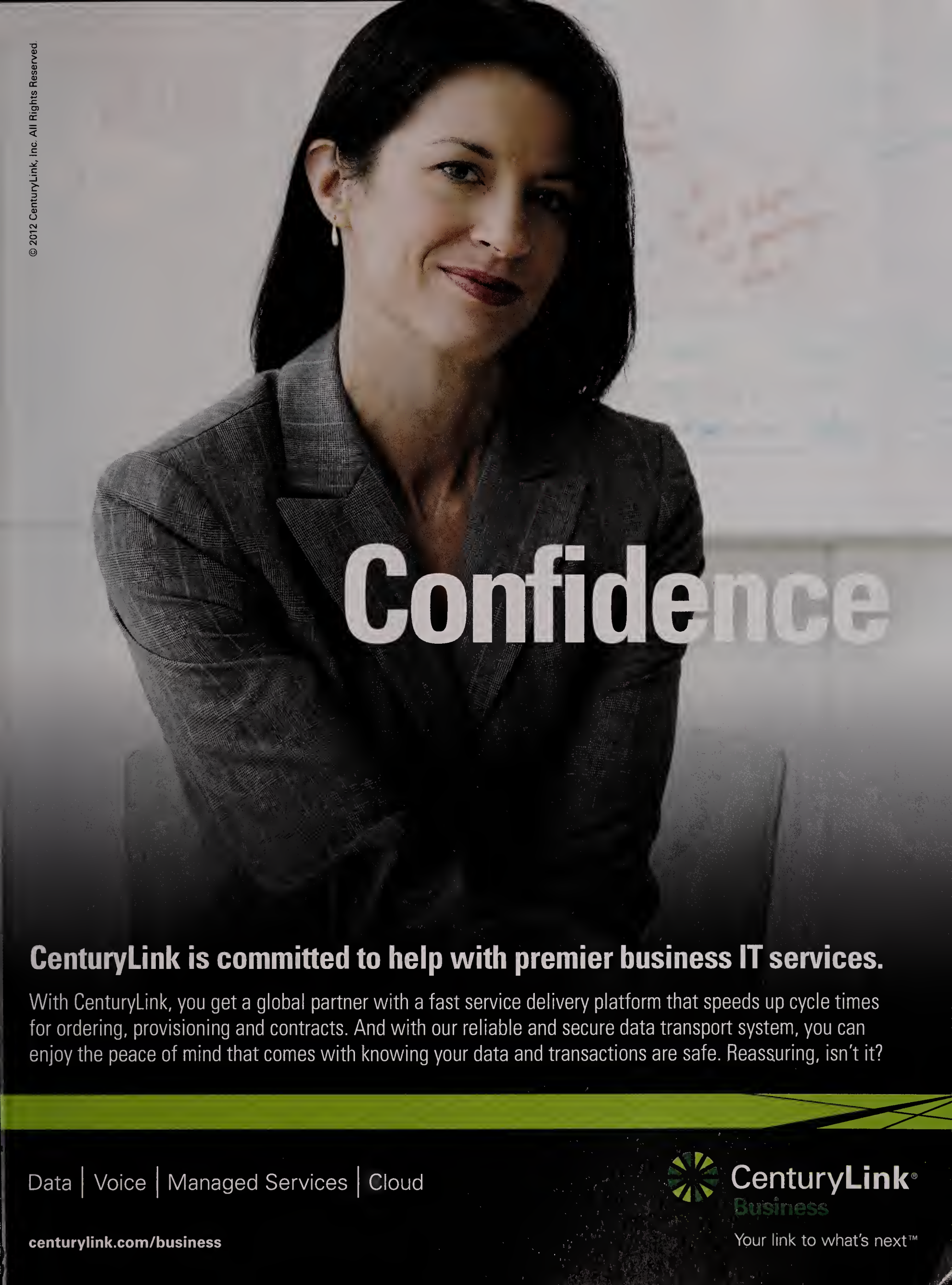
Tweeting Tech Support

Ever wondered if your company can provide **customer service and tech support** using Twitter? Contributing Writer Vangie Beal talked with Dell about how that company gets more than **25,000 comments a day** on social websites. Dell has a team called Social Outreach Services that includes people dedicated to training, governance and social platform testing, along with people who provide customer help and tech support via social sites. Social Outreach Services provides assistance for **2,000-3,000 customers per week** and resolves nearly **98 percent** of the problems it tackles over social media.
www.cio.com/article/706510

Compiled by Editorial Assistant Lauren Brousell. Have a comment about a story in this issue? Go to *www.cio.com/issue/20120615* or write to *letters@cio.com*.

PHOTO BY TIM LLEWELLYN

© 2012 CenturyLink, Inc. All Rights Reserved.



CenturyLink is committed to help with premier business IT services.

With CenturyLink, you get a global partner with a fast service delivery platform that speeds up cycle times for ordering, provisioning and contracts. And with our reliable and secure data transport system, you can enjoy the peace of mind that comes with knowing your data and transactions are safe. Reassuring, isn't it?

Data | Voice | Managed Services | Cloud

centurylink.com/business

CenturyLink® Business

Your link to what's next™



FROM THE
PUBLISHER EMERITUS

IT Takes a Village

The CIO Executive Council, a peer advisory group founded by *CIO*'s publisher, runs an initiative called Youth in IT, which has done a lot of work with CIOs that focuses on encouraging kids from the elementary through grad school levels to consider technology careers. Perhaps you have attended one of the group's sessions at events across the country.

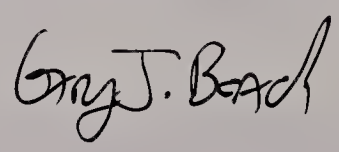
The passage of a bill authorizing a natural gas pipeline gets lots of press in our country, but the building of a national pipeline of young Americans interested in technology goes largely unnoticed. *McKinsey Quarterly* recently reported that if American students continue performing poorly on international math and science assessment tests, our country risks sliding into a "permanent national recession." And in March, the well-respected Council on Foreign Relations warned that this educational deficit even threatens America's national security. Why? Because critical Washington agencies are frankly worried about the number and quality of young Americans coming through our educational pipeline.

And it is all so silly! Too many young Americans and their parents believe that developing a generation of kids with strong math and science skills is not important to the future. They often labor under the misapprehension that all tech jobs are going to Asia, even though the Bureau of Labor Statistics reports that the polar opposite is true: It forecasts strong, double-digit job growth in tech through the rest of this decade.

Possibly the most important initiative taken by the Youth in IT program is to try to change young Americans' perception of what IT jobs look like. Why is this so critical? When the Stevens Institute of Technology surveyed middle- and high-school guidance counselors in 2008, it found that the overwhelming majority of those whose job it is to advise kids on careers have no clue what an IT worker is. If *they* don't know, how can we expect their students to?

And that's where you come in. I want to marshal a small army of *CIO* readers to call a guidance counselor in their community and ask for a meeting. At that meeting, offer to mentor the counselor on tech jobs. Then offer to come by after school to talk with students who might be considering jobs that require strong math and science skills.

All IT executives have a responsibility to build our next generation of leaders. Let's get to work doing it together.



Gary Beach, Publisher Emeritus
gbeach@cio.com

PHOTO BY WEBB CHAPPELL

CIO
BUSINESS TECHNOLOGY LEADERSHIP

PRESIDENT AND CEO Michael Friedenberg
GROUP PUBLISHER Bob Melk
PUBLISHER Adam Dennison
PUBLISHER EMERITUS Gary J. Beach
CHIEF CONTENT OFFICER John Gallant

EDITORIAL

EDITOR IN CHIEF
Maryfran Johnson
EXECUTIVE EDITOR
Mitch Betts
MANAGING EDITOR
Christine Celli
SENIOR EDITOR
Kim S. Nash
COPY EDITOR
Colleen Barry
CONTRIBUTORS
Jack Bergstrand, Joab Jackson, James A. Martin, Kyle McNabb, Stephanie Overby, Agam Shah, Michael Ybarra, Minda Zetlin
EDITORIAL ASSISTANT
Lauren Brousell

CONTRIBUTING EDITORS

CIO EXECUTIVE COUNCIL
VICE PRESIDENT, EDITORIAL AND PROGRAMS
Rick Pastore
EDITORIAL MANAGER
Diane Frank

DESIGN

EXECUTIVE DIRECTOR, ART AND DESIGN
Mary Lester
ART DIRECTOR
Terri Haas

ONLINE EDITORIAL

EDITORIAL DIRECTOR
Brian Carlson
EXECUTIVE EDITOR
Dan Muse
ASSISTANT MANAGING EDITOR
Shane O'Neill
SENIOR EDITORS
Brian Eastwood, Al Sacco
SENIOR ONLINE WRITERS
Tom Kaneshige, Thor Olavsrud
STAFF WRITER
Kristin Burnham
ASSOCIATE ONLINE EDITOR
Sheryl Hodge

RESEARCH

RESEARCH DIRECTOR
Carolyn Johnson

CXO MEDIA INC.

©CXO Media Inc.

INTERNATIONAL DATA GROUP
CHAIRMAN OF THE BOARD
Patrick J. McGovern
IDG COMMUNICATIONS, INC.
CEO
Bob Carrigan

BPA WORLDWIDE

CONTACT US

WHO COVERS WHAT www.cio.com/staff
EMAIL letters@cio.com
PHONE 508 872-0080

IF WE think a little deeper, could ocean currents be the key to sustainable energy?

Tidal kites – a dream our software could bring to life.

Every day, the moon's gravitational pull creates ocean currents all over the world – and currents mean energy. Tidal kites, created by companies like Minesto, are graceful undersea power-generating turbines which could soon be making a significant, environmentally friendly contribution to the world's electricity supply.

The 3DExperience software platform from Dassault Systèmes is at the heart of turning such new innovations into reality. Energy, process and utilities organizations throughout the world use 3DExperiences to simulate, understand, optimize and manage every aspect of their operations from investment to commissioning and from maintenance to safety. It will be 3DExperiences that help the tide turn for sustainable energy.

Our software applications for the 3DExperience platform:
CATIA / SOLIDWORKS / SIMULIA / DELMIA / ENOVIA
GEOVIA / EXALEAD / NETVIBES / 3DSWYM / 3DVIA



It takes a special kind of compass to explore the world's future possibilities. Innovative companies use our 3DExperience software platform to understand the present and navigate the future.

Find out more: **3DS.COM/ENERGY**

Our customer: Minesto

DASSAULT SYSTEMES | **IF WE** ask the right questions we can change the world.

world View

Fresh **Ideas** from
Around the Globe

Globalization Is Keeping Indian CIOs on the Road

INDIA Tata Technologies CIO V Balaji belongs to a group whose ranks are swelling: Indian IT leaders with increasingly global responsibilities.

Indian companies are rapidly expanding into new territories and collaborating with foreign executives. CIOs are often involved and pulled outside their comfort zone. "The role is extremely demanding and every day is tough," says Balaji, who spent nearly five months away from home last year shuttling between North America, Europe and Asia Pacific. "There is a significant amount of stress when you're working across multiple time zones, traveling across multiple territories, and it takes a heavy reliance on communication."

Balaji believes that cultural differences are a positive, and says the global team has been "able to exchange and leverage ideas off each other for our respective territories." **www.cio.in**

Financial Services Co. Improves Data Quality

BULGARIA Gaining insight into data quality and building a comprehensive system for managing that data was a key project for financial services company Generali Bulgaria. Studies show that poor-quality data can cause low customer satisfaction, service and billing issues, and lackluster marketing campaigns, all of which can hurt profits. The project, for which the company partnered with Adastra, targeted the group's insurance company, where data was "most important," according to Ivaylo Yosifov, Generali Bulgaria's CEO. Yosifov is pleased with the results: The company now knows more about missing and available data. "We have a list of data that need upgrading and cleaning. We know who is introducing faulty data, and how," he says. **http://cio.bg**

Military CIO Seeks Private App Store for Armed Forces

AUSTRALIA Defense Force CIO Greg Farr hopes to develop an app store to speed app delivery and capabilities to the armed forces. Smartphones and apps from places like Apple's App Store are already in heavy use in the field. "I think we need to have that in-house," he says. He points to the U.S. military's use of a ballistics calculator app. "You can buy it from the App Store and use it immediately," he says. "That is the environment people expect." **www.cio.com.au**

CIO Improves Business Efficiency While Challenging Old IT Dogma

NETHERLANDS Sligro Food Group CIO Maurice van Veghel is tackling two key areas for the company: improving supply chain efficiency, and exploring new business opportunities online. The $3.2 billion business was founded as a wholesaler but is also involved in retail. He's proposing a business that is entirely online, with smartphone-based ordering, using a system that is intelligent enough to suggest purchases to customer. While CIOs still need to ensure that the fundamental utilities of IT are working, a process van Veghel likens to keeping the heat on, he urges CIOs to challenge dogma and look at new ways of doing business. "Some IT people do not like that and go back in their cage and tinker with the heating. That is fine, but it is clear that you do not need to be CIO," he says. **http://cio.nl**

-Compiled by IDG News Service from *CIO* magazine affiliates worldwide

I.T. WORKS BETTER TOGETHER.



With HP Converged Infrastructure solutions powered by Intel® Xeon® processors, you can spend over 70% of your time and IT budget on innovation rather than maintenance.*

HP Converged Infrastructure integrates servers, storage, networking, security, and management software into turnkey systems that accelerate IT, reduce application provisioning time by 75%, and get you ready for the cloud.*

convergedinfrastructure.com

*Substantiation: HP white paper, *Measuring the Business Value of Converged Infrastructure in the Data Center*, October 2011

© Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.

Got Summer Interns?

Three tips for keeping them engaged, contributing and easy to manage

1 Get to know them. "Creating rapport will open up the lines of communication, make them feel more at ease, which will make them more skillful workers," says LinkedIn's Connection Director Nicole Williams. Start by taking them to lunch and schedule regular follow-up chats to talk about goals.

2 Make grunt work meaningful. All internships involve menial tasks, so keep your interns focused by framing their work in a larger context.

3 Know when to say goodbye. The worst thing an employer can do is keep an internship going with no end–or pay–in sight. "If they really have done a stellar job but you just don't have the resources to hire them, then flat-out let them know," Williams says. *–Kristin Burnham*

For more tips, see: *www.cio.com/article/706529*



WORTH READING



BOOK The Finch Effect:
The Five Strategies to Adapt and Thrive in Your Working Life
By Nacie Carson

Carson connects Darwin's theory of survival of the fittest to today's workers. Don't wait on the economy, she says; create your own career ladder. But to really thrive, finding balance and nurturing your health is important, too. *Wiley, $25.95*

quick FIX



How do I effectively communicate with my leadership-level peers?

ALWAYS plan your communication; never wing it. Planning helps you be purposeful and increase your chances of achieving the results you seek. Take five minutes to plan your message with a few simple steps. First: Determine your high-level business outcome. Next: Consider your audience and where they're coming from. The more you know about someone, the better you can influence them and move them to action. Then: Choose the right method to communicate. I recommend face-to-face or voice-to-voice when possible because you get immediate feedback. Finally: Know what you'll do if your time is cut short. If you have half an hour for your meeting, be ready to present in 15 or even 5 minutes.

SOMETIMES send a fact sheet in advance of an important conversation, especially when detailed information is critical to making an informed decision. This is especially important for CEOs who make decisions based more on facts than feelings. Also, there are times when an outside perspective is valuable to build your case. Often a consultant can deliver a tough message more easily.

NEVER make things up. The higher you get in an organization, the more you need truth tellers around you, and the fewer there are. There's great power and credibility in honesty. And never delay, holding out for absolutely all the information–especially when delivering bad news. By then it will be too late. Someone is going to fill the communication vacuum with their messaging instead of yours, and you'll be on the defensive.

David Grossman is CEO of The Grossman Group, a strategic leadership development and internal communication consultancy.

PHOTOS BY THINKSTOCK

SUPERMICRO®

Intel® Xeon® Processor E5-2600 Series

Fat Twin™

Evolutionary 4U Twin Architecture Offers the Industry's Best Capacity and Efficiency

The Best TCO with Highest Performance-per-Watt/per-Dollar

Broadest Spectrum of Twin Products:

- ***Highly Configurable 8-, 4- or 2-Nodes in 4U***
- Redundant Platinum Level (95%+) Digital Power Supplies
- ***0°C ~ 47°C Operating Temperature support for Free-Air Cooling***
- ***Up to Eight (8) Hot-Swappable 3.5" SAS2 (6Gbps) HDDs per U***
- Hardware and Software RAID options
- Up to 512GB DDR3 ECC R-DIMMs / LR-DIMMs per DP node in 16 DIMM Sockets
- 56Gbps ConnectX-3 FDR InfiniBand or 10GbE options
- Server Management with Onboard IPMI 2.0 through Dedicated LAN Port
- Standard 19" Rack Cabinet support



SYS-F627R3 Series
3.5" HDDs
4U, 4 Nodes

SYS-F617R2 Series
2.5" HDDs
4U, 8 Nodes

Optimized and Flexible design for different Applications, including:

- Data Center, HPC and Cloud Computing
- Enterprise IT and General Server
- File system and Storage Server
- Virtualization
- Simulation, GPGPU Application and Render Farm

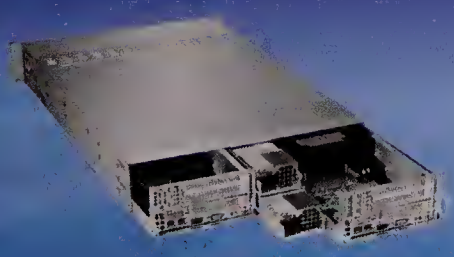
Twin Architecture - Data Center PUE < 1.1 is Much Easier Now

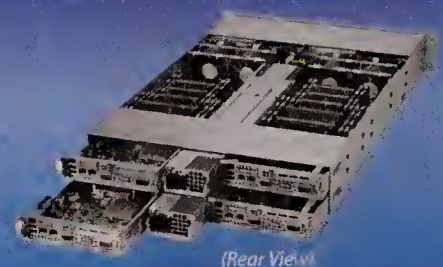
Supermicro's patented Twin Technology is the foundation of the most advanced server platforms in HPC Data Center, Cloud Computing and Enterprise IT applications around the World. These high performance, high density systems feature optimum airflow designs for energy efficient cooling, easy maintenance and high availability with hot-swappable nodes and redundant power supply modules. These systems also feature the latest CPU and interconnect technologies for maximum processing performance and data throughput.



(Front View)

2U Twin
SYS-2027TR-D Series
2 Hot-Swappable DP Nodes in 2U
Capable of 1 GPU /node





(Rear View)



(Front View)

2U Twin²®
SYS-6027TR-H Series
4 Hot-Swappable DP Nodes in 2U

2012 International Supercomputing Conference JUNE 17-21st

Hamburg, Germany
Congress Center Hamburg

Come visit our booth @ #520

Windows HPC Server

Digital! We Power the Cloud

SUPERMICRO X9 SERVER PLATFORMS

www.supermicro.com/X9

SMCI-20120221-3

© Super Micro Computer, Inc. Specifications subject to change without notice. All other brands and names are the property of their respective owners.

ADVERTISEMENT

MARKET PULSE

IT Leaders Open Up About Mobile App Trends in the Enterprise

IT leaders expect mobile devices and applications to play a key role in their ability to achieve and maintain a competitive edge.

In a hotly competitive economy, mobility is a key strategy in organizations' pursuit of increased efficiency, greater cost savings, and improved responsiveness to customer demand.

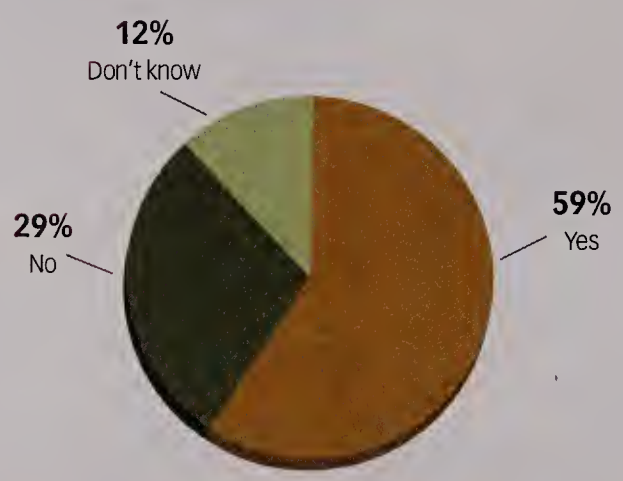
According to a recent survey conducted by IDG Research Services, IT leaders need to develop strategies to secure and manage mobile devices and applications. The survey uncovered a number of key factors to consider when formulating a mobile strategy:

- Mobile apps are becoming an integral component of enterprise IT: Regardless of size or industry, all respondents reported they currently use at least one mobile app or plan to do so in the foreseeable future.
- Mobility is delivering on its promise: Where companies deploy mobile apps, the benefits align extremely well with expectations, particularly in boosting employee productivity.
- The perception of security risk is greater than the reality: Businesses needlessly avoid mobile solutions due to concerns that are already resolved.
- Commercial mobile apps aren't enough: Companies want custom mobile-enterprise apps to meet specific business needs and are willing to invest accordingly.
- Mobile developers are in high demand: Organizations hope to avoid hiring and training costs by turning to mobility vendors for expertise and thought leadership, including technical support, training, and best practices.

To read more about the exclusive IDG Research study and learn how to empower your IT organization to develop custom apps, download this white paper at, **www.cio.com/whitepapers/motorola**.

Is your organization developing or planning to develop any custom mobile enterprise applications (as opposed to deploying "out-of-the-box" applications) in the next 12 months?

Planning to develop custom enterprise applications



Develop in-house vs. third-party development



Source: IDG Research, March 2012

CIO Custom Solutions Group

MOTOROLA



Hadoop Advantage

Market researcher ComScore tames a torrent of data with open-source analytics

BY MICHAEL YBARRA

Mike Brown, the CTO at ComScore, knows a bit about managing big data. Every day 12 terabytes of information rushes into his cluster of 80 servers running the open-source software Hadoop, which sorts and analyzes the data for a host of clients who want to know things like which online vendor sold the most e-cards or how fast Facebook is growing in Brazil. "We ingest 32 billion new rows of a data a day," he says.

The torrent of data is swelling fast enough that Brown plans to be running 200 servers by the end of the year—and without the right data-integration software, he thinks that number could double. Brown has been wading through an ocean of information ever since he joined ComScore as its first software engineer in 1999, shortly after the startup landed its original venture financing. Today the Internet market research firm reports $232 million in revenue a year. "Our growth is pretty darn linear and should continue," Brown says.

ComScore started off on a homegrown grid processing stack and in 2000 added Sync- ▸▸

ILLUSTRATION BY CELIA JOHNSON

20% Adults who admit that they've shared false information online. Intel **25% Consumers interested in mobile wallets.** Catapult **30% Shanghai consumers who use a PC and a mobile device while watching TV.** Nielsen

▸▸ **Big data** Continued from Page 13

sort's data integration software, the current version of which is DMExpress. "We were up and running in weeks," Brown says. "It literally made our software run 5-10 times faster. You're not just adding storage, but you're adding compute as well."

In 2009, ComScore began migrating to Hadoop, becoming an early adopter of the technology, which has recently begun gaining traction in the enterprise market.

"We decided it was better to leverage the community than invest in building our own," Brown says. "In general, Hadoop is harder to bring into an enterprise when you have mixed operating systems. DMExpress, with their connector, is helping to solve this issue."

That's a typical experience, notes James Kobielus, in a recent report for Forrester Research, where he was an analyst. Hadoop, he wrote, "lacks some critical enterprise data warehouse features, such as real-time integration and robust high availability. The Hadoop market includes many vendors that have focused on these and other deficiencies in the core Hadoop stack. Vendors have, of necessity, either built proprietary extensions to address these requirements or have leveraged various NoSQL tools and open source code to provide the requisite functionality."

"Hadoop is hard to bring into an enterprise with mixed operating systems."

–Mike Brown, CTO, ComScore

In ComScore's case, Brown found that Syncsort's software made the Hadoop migration a piece of cake. "You don't have to change any code, except the push code," he says. "We use DMExpress in [more than] 30 different apps. It's our tool for any situation [where] we have to adjust the data."

"We can store twice as much data on the cluster," he continues, "and we also use it to improve performance. One big problem it solved was the ability to chunk and split the large files we have into files that fit perfectly into the chunks on Hadoop. This enables us to have a higher rate of parallelism on compressed files while reducing our costs for disk on the cluster."

That, Brown says, translates into saving 75 terabytes of data storage a month. That, too, is big data.

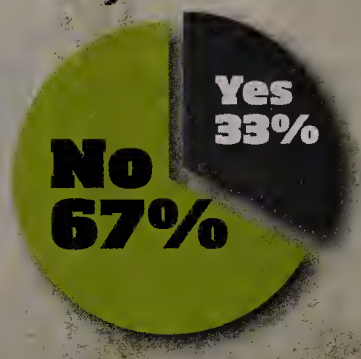
Michael Ybarra is a freelance writer based in California.

crunch

Reining In the BYOD Hype

Think that bring-your-own-device (BYOD) programs are mainstream in corporate America? **Today only one-third of organizations are BYOD-friendly.**

Do you allow employees access to your corporate networks via personal laptops, smartphones or tablets?



SOURCE: ROBERT HALF TECHNOLOGY SURVEY OF 1,400 CIOS, MAY 2012

The Beat Goes On

Issuing commands to tomorrow's handheld devices could be as simple as tapping out a few musical beats on a touchscreen or trackpad, an input technique called rhythmic interaction, according to researchers at the University of Paris-Sud.

Tapping in rhythmic patterns wouldn't be ideal as the primary interface, but could be handy for shortcuts, much like computer hotkey combinations, says Emilien Ghomi, who summarized the French researchers' work at the Association for Computing Machinery's human factors conference in May.

While on a smartphone, a user could tap out a command on the back of the handset while continuing to talk. A few taps on a music player could trigger commands that would otherwise require tedious digging through layers of menus, Ghomi says.

He says users could probably memorize about eight different rhythmic patterns, called motifs, as shortcut commands.

Building in the capability to recognize taps would be a trivial task for any maker of mobile operating systems, and a program to intercept taps would take up minimal device memory, Ghomi says.

–Joab Jackson

74% Americans who say it's very important for presidential candidates to address cybersecurity issues. Unisys Security Index **46% People who downloaded a retailer's app and say it caused them to visit the store more.** ABI Research

UNLIMITED ACCESS.
UNCOMPROMISED SECURITY.
MONSTER SEEMORE
WITH CLOUD TECHNOLOGY.

Experience the next level of search technology with SeeMore™ from Monster. Through advanced, seamless integration with all systems, SeeMore consolidates all of your resume databases in one safe, secure location. Your internal databases. Monster's database. Referrals. Social networks. All in the same place thanks to cloud technology. The benefit? An HR department better able to streamline their talent management workflow to reduce hiring time and increase productivity. SeeMore. **From Monster. Find better.**

Visit findbetter.monster.com to learn more about SeeMore

monster®
Find Better.™

BOEING

Manipulating Data With Gestures

BY STEPHANIE OVERBY

THE PROJECT :: Implement a spatial operating system featuring gestural input and high-definition graphical output to analyze large data sets in real time and enable global collaboration at Boeing.

THE BUSINESS CASE :: Boeing's defense business wanted to record and play back its simulated aircraft battles so it could review with customers what each participant and weapons system was doing at any point in time—"like a giant DVR," says Mike Kurth, managing director and chairman of Boeing Defence UK. Moreover, it had to "deal with terabytes of data a minute, comprised of multiple data types served up by multiple generations of IT infrastructure."

Company leaders saw a real-world solution in the seemingly sci-fi system featured in *Minority Report*. "Anyone who saw the movie had to be impressed by the Tom Cruise character's ability to parse through a visual wall of data on a big screen by simply pointing and gesturing," Kurth says. "And it was real." Oblong Industries, whose co-founder developed the fictional interface, was recruiting inaugural customers to develop corporate applications for what it calls the g-speak platform: an operating system not only capable of taking in gestural input and producing multi-display output, but also of providing data visualization, analytics and integration for multiple computers, screens and applications. "We were attracted by the gloves and gestures," says Kurth, "but we stayed for the plumbing."

FIRST STEPS :: The first g-speak application—the digital event recorder—was developed at Boeing's Virtual Warfare Center beginning in late 2009. "We were able to analyze any event in space and time across the entire simulation, rather than being forced to do a laborious event correlation element-by-element across multiple independent systems," Kurth says. "It saves months of time."

In late 2010, Boeing began piloting Oblong's Mezzanine collaboration tool (built on g-speak) for global customer projects. The system features three high-def displays that serve as a shared workspace. Multiple participants can manipulate elements on the screens via spatial wands, a browser-based client or their mobile devices.

"A critical element missing in every collaborative environment we'd seen was the ability to virtually reach in and interact with your collaborator's environment," says Per Norén, vice president of information services at Boeing Commercial Aviation Services, who has introduced Mezzanine in the United States, the UK, and India. "We call that 'messing with your buddy's stuff.'"

WHAT TO WATCH OUT FOR :: Developing tools on top of Oblong's application programming interface, which was still in heavy development, was tricky, Kurth says.

But the real challenge was getting comfortable with manipulating data in ways dramatically different than the IT organization had before. "We faced many challenges selling our ideas and documenting success," says Kurth. Boeing worked with Oblong to document performance metrics and improve its software development kit.

Boeing wasn't just adopting g-speak; it was helping develop it. "Joint invention between engineers is easy," says Norén. "Joint ownership of intellectual property between companies is hard." So the companies created contractual and operational frameworks to protect each company's IP and keep the project mutually beneficial.

Stephanie Overby is a freelance writer based in Massachusetts.

56% Opera users who only access the browser from their mobile devices. Opera **37% Mobile device users who say that their biggest problem with their devices is a slow Internet connection.** Prosper Mobile Insights

BUILT FOR
THE HUMAN
NETWORK

WE DIDN'T REFINE THE SERVER. WE REDEFINED IT.

When we decided to enter the server market, we did it in the only way we knew how: by completely transforming it. Which is why we designed our servers as part of a system unified from the ground up, with no silos or complexity–leading to better efficiency and productivity. We call it the Cisco Unified Computing System™, and it's engineered to deliver far greater simplicity, automation, speed and scale. Benefits that have led to a lot of happy customers (11,000 to date), and some pretty impressive statistics as well: an 80% increase in administrator productivity, 90% reduction in deployment times, 40% improvement in application performance and 30% lower infrastructure costs. Cisco UCS. Engineered for productivity. Ready for whatever the future dishes out. And built by the only company in the world that could. Learn more at cisco.com/servers.

Cisco UCS is powered by the Intel® Xeon® processor.



©2012 Cisco Systems, Inc. All rights reserved. All third-party products belong to the companies that own them. Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.



How to Get Strategic

Joining the inner circle requires a clear vision, great communication skills and a reputation for managing change

BY JACK BERGSTRAND

Strategy is more than just an important part of a CIO's job, it can also be the most fun part. Yet some very talented CIOs get boxed out of the inner circle, overlooked because they aren't seen as strategic enough. There are three essential ingredients to succeeding as a strategic CIO: Your vision, your ability to communicate that vision, and your reputation as a change agent.

Start with a winning strategic vision—which doesn't mean coming up with crazy ideas. The vision should focus on your company's business model, including what needs to stay the same and what should change. Capitalize on your individual assets, especially your employees, your customer relationships and your operating capabilities. Ultimately, the vision comes down to execution, which is one reason CIOs are in a good position to create a successful strategy.

Learning to clearly communicate the company's strategy is one of the best investments an executive can make.

A clear vision can also help your company manage its portfolio of projects by helping executives make better decisions when multiple projects are competing for resources. The litmus test for a successful strategic vision is when key stakeholders can say "no" to good ideas because they are off-strategy.

Of course, one of the best ways to ensure the success of your strategic vision is, in the words of management legend Peter Drucker, "to invent your own future." To do this successfully requires the second ingredient: effective—that is, clear, consistent and constant—communication.

Many IT professionals don't put sufficient time and effort into their communication, which leads to a lot of redoing work and undermines their reputations. People in IT too often spew out a sea of acronyms and don't connect on the human and emotional levels. Learning how to clearly communicate the company's vision and strategy is one of the best investments an executive can make.

Communication requires hard work. And less is more when it comes to length. I'm often stunned by the needle-in-a-haystack-style communications that come from IT departments, where readers and listeners have to hunt for the main idea. Make your point, make it connect, and make it over and over again.

This leads to the third and most important ingredient for strategic CIOs: effective change management. Your ability to be a change agent will define your success and your reputation. I often encounter organizations that are struggling with change management. The biggest hurdles are usually differing visions of success and over-engineered governance structures. These problems trigger finger-pointing, undermine decision-making, and cause a slew of project-management problems.

With change management, as with communication, less is more. I remember when I was brought in to restructure Coca-Cola's global SAP implementation. Because of the size of the project, the governance structure—developed by a highly respected consulting firm—included more than 100 people. We cut the governance structure to three people—yes, three—and the situation turned around quickly.

If you involve too many people, your initiative will be destined to have many interesting points of view and precious few conclusions. By enforcing a clear vision, consistent communications, and a simple change-management structure, employees will self-organize much more productively—moving ahead independently when it makes sense, working together when that's what is needed, and staying on the sidelines if their expertise is not required.

Strategic value ultimately comes from better serving your customers, increasing your sustainable growth rate, and generating more profit from products and services. CIOs should play a strategic role in making that happen.

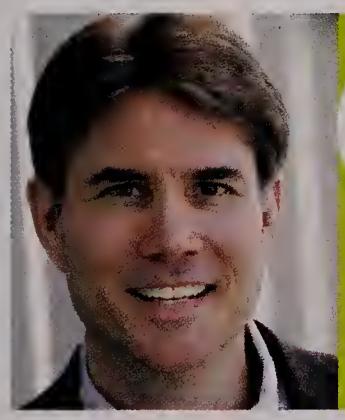
Jack Bergstrand is founder and CEO of the consultancy Brand Velocity and author of *Reinvent Your Enterprise*. He is a former CIO and CFO at Coca-Cola.

Chevron Drills for Competitive Advantage

The company's CIO describes a three-year IT transformation process and says it's time to declare victory

BY JOHN GALLANT

Louie Ehrlich, CIO of Chevron and president of Chevron Information Technology, is leading the nearly $250 billion energy company through a major IT transformation process. The overriding goal is to use IT to create competitive differentiation for the business—in an industry where Chevron's rivals are all trying to do the same thing. In these edited excerpts from an interview, Ehrlich describes the goals of the transformation effort and what comes next.



> You can't operate under a banner of transformation forever. You've got to declare victory.

Your transformation process has three big elements. One is improving business insights.

It's really centered on making sense out of trusted information to glean insights from it. In our world, for example, understanding the subsurface of the earth is really important. It's not something you can see just by standing over it, so we use sensors and seismic technology to collect data that defines what it looks like, but you can't do anything with that data without modeling, analytics, visualization and information technology to make sense of it.

Another example is, let's say, within a refinery where we have sensors all over the facility, we're trying to optimize the way that refinery works, taking all the data that comes from those sensors and providing some sort of view to optimize the refinery, keep it safe, alert someone to an issue before it becomes an issue, that sort of thing.

The second area of focus is automation and optimizing processes.

Our work is a complicated business, but it's also a dangerous business. The safest thing we can do is keep people out of harm's way—so the ability to automate business processes to do that is where we focus some of our investment. At one of our refineries, for example, every second there's 60,000 valves that are controlled by information technology. There's a lot to do in terms of automating the optimization of a plant. You have to do that through advanced sensors, digital control systems and the like.

Finally, there's the goal of connecting people, partners and businesses.

We have capabilities—in the form of our employees—that reside all over the world. We want to be able to get access to that knowledge to help in business situations, opportunities and challenges at a moment's notice. We also are in many, many joint ventures. The ability to quickly connect and do it in a secure, reliable way is hugely important to how we operate.

What's next?

We're actually going to celebrate the success of it, and this will be the last year of something we call transformation. We're going to retire the brand but continue the journey. You can't operate under a banner of transformation forever. You've got to declare a victory at some point, even though the journey never ends. The other thing is we're going to be putting even more emphasis on business-value creation.

John Gallant is chief content officer of IDG Enterprise. Read the full interview at *www.cio.com/article/704095*.

From Silos to Services

Aetna overcomes business hurdles to revamp its enterprise architecture

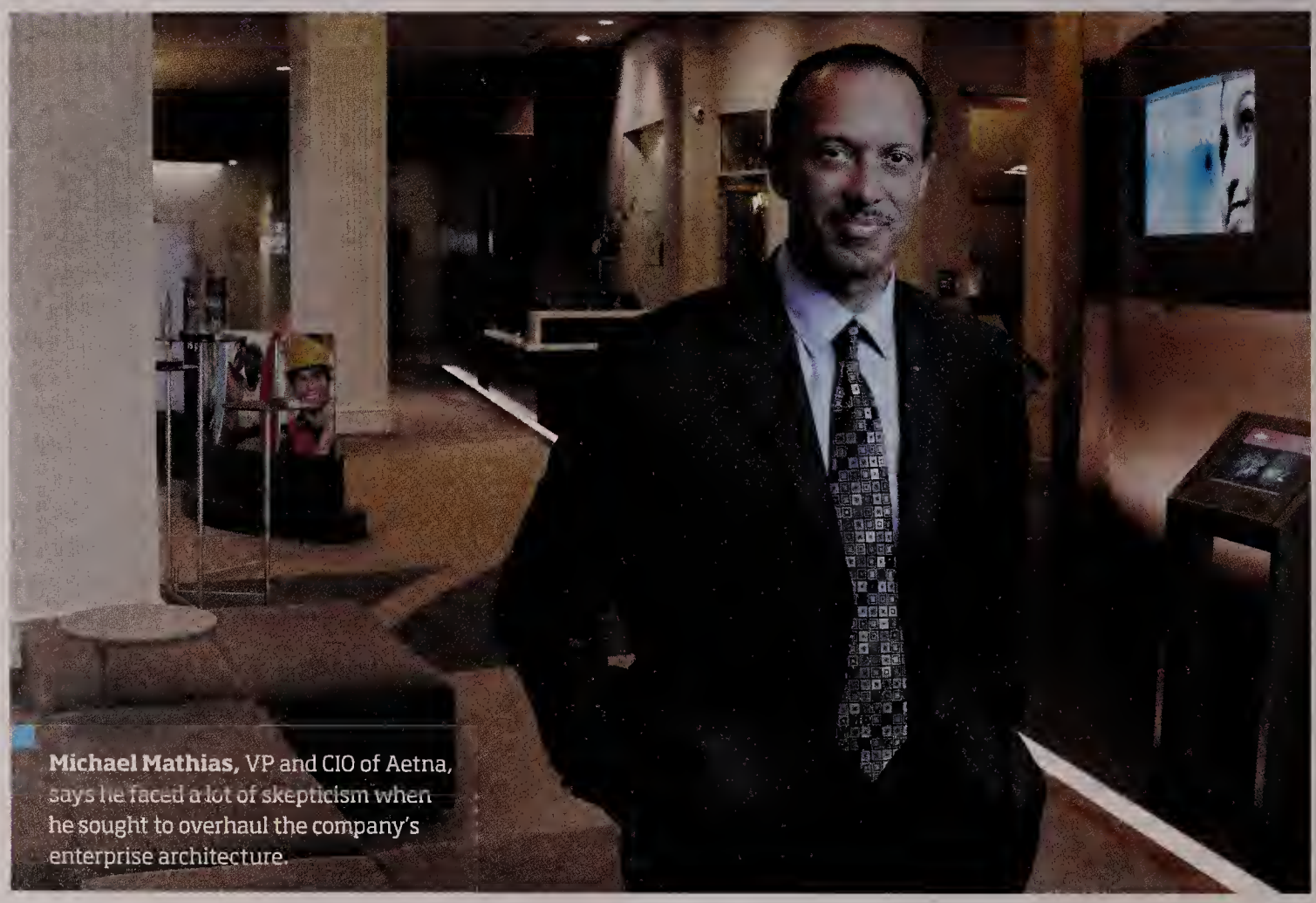
BY STEPHANIE OVERBY

Why do so many enterprise architecture (EA) attempts fail to take hold? Too many IT organizations forget about the E in EA.

For enterprise architecture to yield transformation, it has to start with the business. "Too many [enterprise architecture efforts] take a bottom-up or sideways-in approach. It has to be driven from the top," says Michael Mathias, vice president and CIO of insurance provider Aetna. "It's not a technology initiative. It's a business commitment."

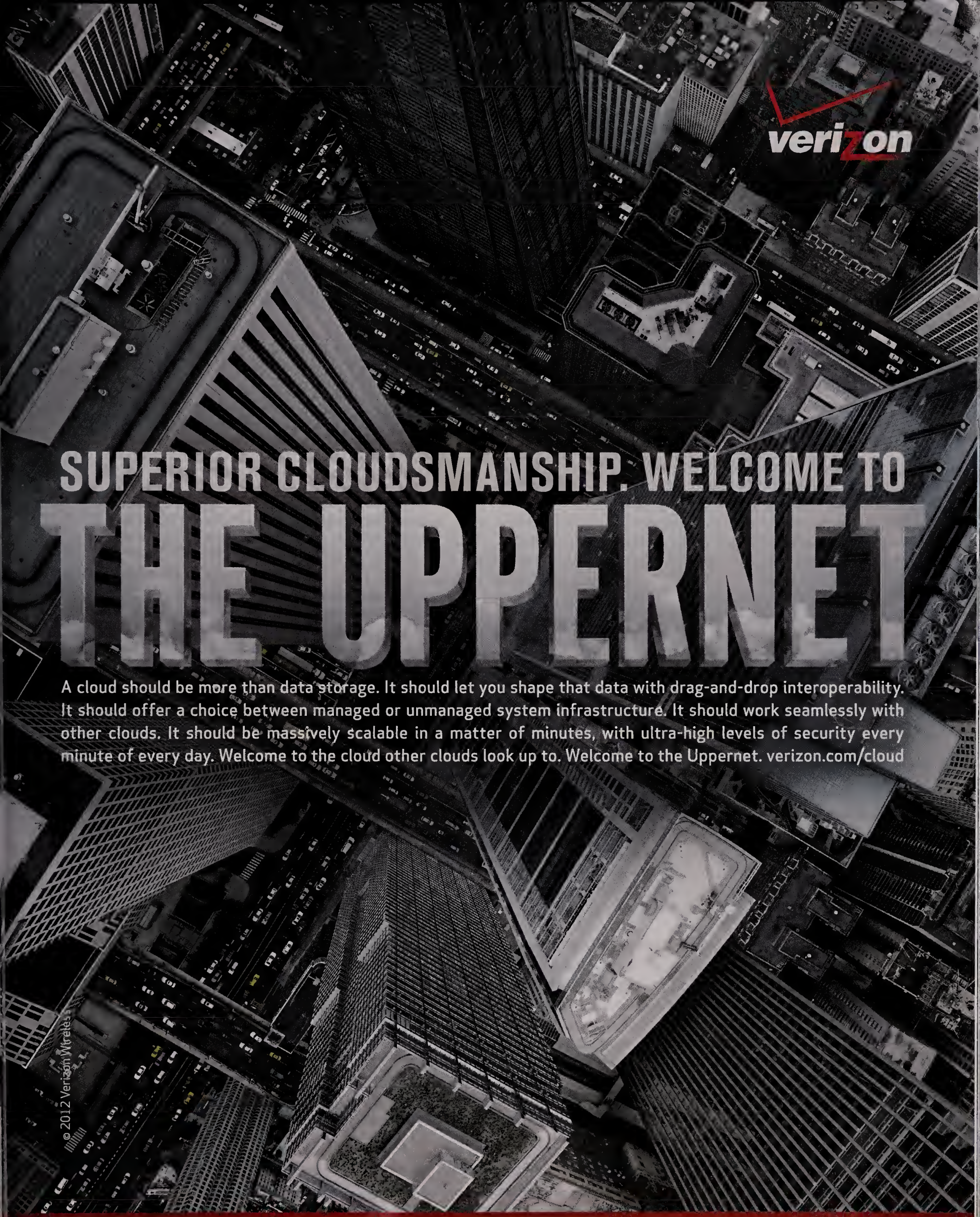
Mathias knew a service-oriented architecture (SOA) approach could streamline the 159-year-old company's operations, improve customer service and increase IT agility. It could also create a common experience for all customers and enable information sharing across all lines of business.

But in an era of quick wins and rapid returns, he knew getting the business and IT ▸▸▸



Michael Mathias, VP and CIO of Aetna, says he faced a lot of skepticism when he sought to overhaul the company's enterprise architecture.

PHOTO BY LANNY NAGLER


verizon
SUPERIOR CLOUDSMANSHIP. WELCOME TO
THE UPPERNET
A cloud should be more than data storage. It should let you shape that data with drag-and-drop interoperability. It should offer a choice between managed or unmanaged system infrastructure. It should work seamlessly with other clouds. It should be massively scalable in a matter of minutes, with ultra-high levels of security every minute of every day. Welcome to the cloud other clouds look up to. Welcome to the Uppernet. verizon.com/cloud
© 2012 Verizon Wireless
CLOUD SERVICES | SaaS | PaaS | IaaS

▸▸ **Architecture** Continued from Page 20

to persevere through a long-term project would be difficult. So first he sold the CEO and CFO on a three-year plan with significant returns and increased speed to market.

The project began in 2009 as the new EA group developed a business capability map that spanned the company's previously siloed business units. "That drove us toward what services to target and what would cut the most costs," Mathias explains. Services that could be used by the most business units and customers were created first: for example, those pertaining to plan eligibility or cost of services, which would be accessed by all members, providers and plan sponsors.

The most difficult part wasn't identifying where to start, but finding IT professionals with the skills to get the job done. The EA group now accounts for 150 of Aetna's 3,000-person IT shop, but it was difficult to staff.

"We had to look for architects who could take a holistic view of the enterprise. We needed programmers skilled in this new way of building and testing applications," says Mathias. "Those roles are all difficult to fill."

Mathias and his IT leadership team are searching beyond veterans in the field, including scouring the retail industry for expertise. "With the commercializing of IT, healthcare is really more of an individual retail play today," he explains. "We need to understand how to work with the individual."

Beyond staffing, Mathias says it was a challenge to stay on course, especially the first year. "There were skeptics everywhere," he says. "It was a major shift in how we approached developing applications and capabilities. It took a while to get everyone on board."

Where before the expectation was that newly built code could be reused by one or two applications, now it's reused by as many as eight. "We're seeing greater and greater reuse as we go through the application portfolio," Mathias says.

To maintain momentum, Mathias marketed IT's quarterly SOA results to the rest of the company. By the end of the three-year plan, IT had surpassed its cost-avoidance goals, delivering more than $50 million in savings.

"We overachieved because we took a holistic enterprise approach to architecture. That gave us a very clear lens on where the richest opportunities were—the higher-use areas, the higher-leverage areas."

The work continued into a fourth year and beyond, to the point where it's now just business as usual at Aetna. "The three-year plan was the justification for the business. That was Services 1.0," says Mathias. "This is part of our DNA now."

Stephanie Overby is a freelance writer based in Massachusetts.

5 Things You Need to Know

PRIVACY POLICIES

1 YOU MUST REVISIT POLICIES REGULARLY. "Criminals are getting enormously sophisticated," says Lisa Sotto, head of the global privacy and information security practice at Hunton and Williams. "If you fix your systems based on today's vulnerability, you won't address tomorrow's." Technology and government regulations are constantly in flux, but your own policies need to remain clear, concise and transparent. Take MySpace's recent troubles with the FTC. Inconsistencies between information it shared with third parties and the rules laid out in its privacy policy left the company subject to audits for the next 20 years. According to Jay Cline, president of Minnesota Privacy Consultants, it's safer and more cost-effective to blend security and compliance policies into a single, integrated framework.

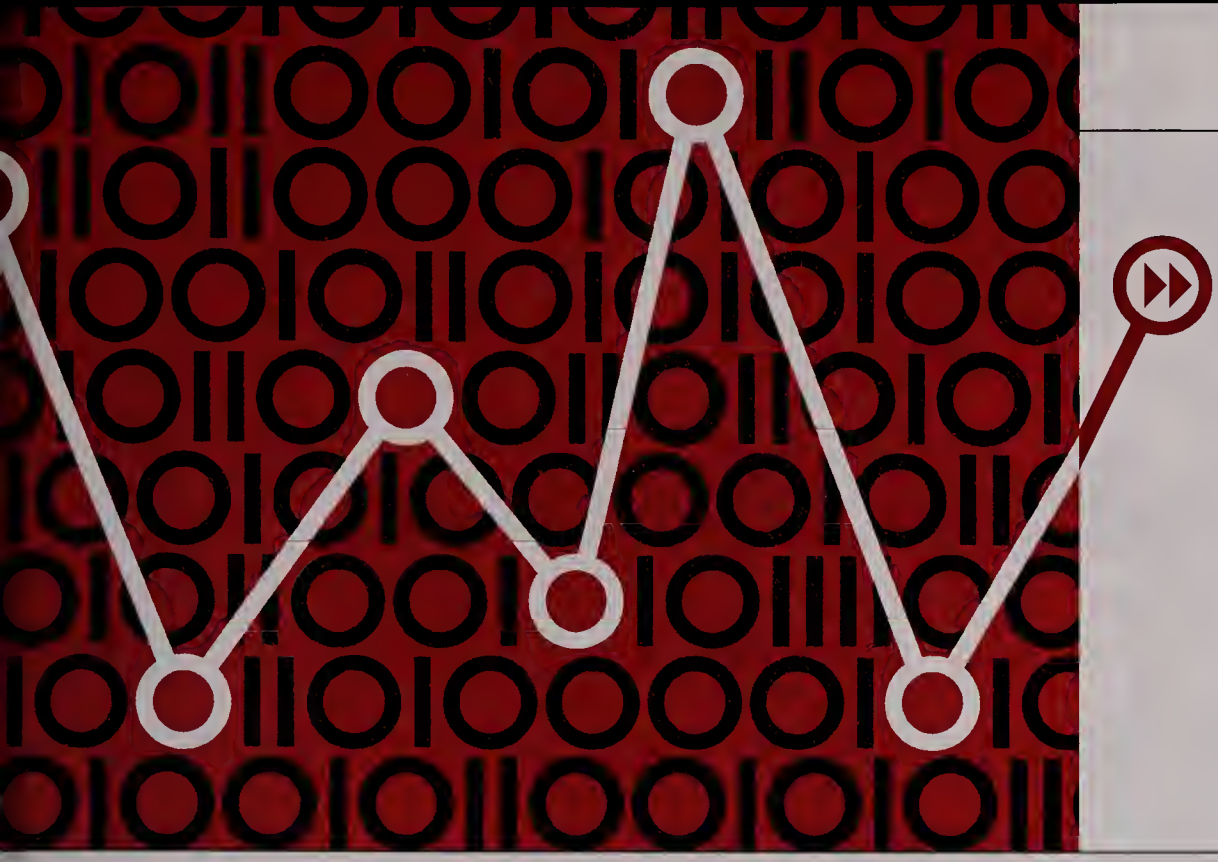
2 CONSUMERIZATION COULD CREATE RISK. Having a bring-your-own-device policy means data no longer resides solely behind corporate barriers, so it's "a test for how well CIOs know their company culture and where it draws the line between risk and convenience," Cline says. Sotto emphasizes the importance of knowing which company documents may be under a legal hold–in other words, an employee must not destroy them. "It's hard to control that when it's the employee's own device," she says.

3 EMPLOYEE EDUCATION IS CRITICAL. Cline says training is the best way to mitigate risk, but it "doesn't move the needle of employee comprehensive behavior until it becomes meaningful to specific roles in the company." Sotto agrees, saying, "It's important to tailor your training to your organization. Educating consumers is a difficult task, and one I would say is daunting."

4 REGULATIONS ARE EVOLVING IN THE U.S. President Obama has backed the Digital Advertising Alliance process, which would allow consumers the freedom to create their own privacy preferences. The FTC has also suggested privacy principles for companies to adopt that address consumer choice, policy promotion and transparency. Sotto suggests consulting a lawyer on how to deal with new or updated government policies like Do Not Track. "Implement best practices now so you don't have retrofit your systems later," she says.

5 ...AND IN EUROPE. Sotto says CIOs need to keep in mind that in Europe, privacy is a fundamental right, whereas in the United States, it's a consumer right. In the EU, "you're not allowed to transfer data to a non-adequate jurisdiction," which Sotto says forces you to ask, "When you store data in the cloud, where is that cloud?" Cline suggests taking webinars to stay updated.

–Lauren Brousell



How Will CIOs Meet Growing Security Threats?

A well-defined, holistic strategy takes services, processes and even user behavior into account

Businesses today are finding themselves more vulnerable than ever to sophisticated cyber attacks. Too often, IT's approach to security focuses on the last mile, just before a new application or suite of services is set to release. Meanwhile, users are bringing in their own devices and accessing social media and cloud applications from the corporate network, potentially opening the door to hackers. To stay one step ahead, an organization must operate under the assumption that it has already been attacked—or even breached.

How can CIOs keep up with these ever-growing threats to the enterprise? Certainly security must be integrated across services, processes, user behavior and technology. This white paper outlines the steps needed to create a holistic security framework for managing risk in today's open, cloud-based IT environment.

The traditional approaches of patching together point security solutions and keeping security strategies beneath the covers are costing companies money and effort. Some CIOs say they are seeing a tenfold increase in the intensity and frequency of attacks on their networks. And the cost is significant: the average annualized eost of cybercrime for organizations surveyed by the Ponemon Institute in 2010 was $6.2 million.

The first step for CIOs in evolving the security framework is to develop a tighter working relationship with their CSOs. These two executives need to come together to present a unified vision when working with the business. But this does require some give and take: CIOs must consider security requirements early in projects, while CSOs must be more flexible than ever before on controls for data and applications that don't fall into top-level security buckets.

Integrating security practices with the business comes next. Forward-looking organizations are including business stakeholders in ad hoc security task forces or risk committees. Executive risk committees work best when they include cross-functional senior business representatives. To win business support, the CIO and the CSO need to demonstrate how security can improve productivity when administered and deployed centrally as a service and when security measures are aligned to risk profiles and user behavior.

Applications and data, not the network, should be the prime focus. IT can build controls such as data loss prevention, malware detection and encryption into mobile applications, rather than rely on the host operating system. That is, security follows users and applications instead of attempting to protect every device on the network. This approach mirrors the distributed, open nature of cloud computing and consumer IT.

Such a holistic security strategy incorporates viewpoints from across the business and makes it easier for people to integrate security into workflows and processes—without sacrificing the productivity that new consumer technologies are delivering.

CIO
Custom Solutions Group

EMC²

To read the entire story, view video interviews and see how you measure up against your peers on security, please visit www.emc.com/cio/building-trust

ANALYST VIEW

Customer Experience Is Your Job

A technology-empowered customer can influence your company's bottom line. The CIO is key to improving their experience. **BY KYLE MCNABB**

You can't miss how technology alters people's engagement with companies. Technology has empowered customers to wield greater influence over the brands with which they interact. They expect things to work the way they want. If an experience disappoints, they make their dissatisfaction known. That can affect your bottom line.

Many of your CEOs respond to this technology empowerment by demanding customer experience improvements. Unfortunately, those demands were probably handed to one person—your call center VP, or your chief marketing officer, but not you. The result? The organization perceives the customer experience as someone else's problem and little has changed.

Your customers' experience is based on their interactions with your enterprise, its channels and its business processes, all of which are embodied by your technology. Improving the customer experience requires technology change, and that's why it is your problem.

To deliver this change, your teams need to get closer to your customers, rethink delivery processes, and revisit your development portfolios. Forrester recommends you:

- Embrace customer experience methods such as persona design and journey maps.
- Reinvest in design skills. Cultivate creative developers that can implement and maintain good design.
- Move to continuous delivery, using iterative processes to help you change with your customers while engaging your business peers.
- Don't neglect development portfolios. Complement them with business rules, business process management suites and mobile tools to improve your responsiveness.

It's simplistic to think you can empower your tech-challenged marketers to take over the customer experience. Only when consumer technology innovation stops will customer experience demands cease being a moving target. Improving the customer experience takes a team, and you and your teams play a central role.

Kyle McNabb is a vice president and practice leader at Forrester Research, where he serves application development and delivery and business-process professionals.

AMD Leans on Cloud to Cut Data Centers

Advanced Micro Devices (AMD) is cutting costs and reducing the number of its data centers worldwide with the help of cloud computing and hardware upgrades.

By 2014, AMD will have pared the number of its data centers down to three, of which two will be in North America and one in Asia, says Farid Dana, director of IT services. AMD currently has 12 data centers, down from 18 in mid-2009, when the consolidation effort began.

The company's goal is to cut costs by shifting more tasks to the cloud, and by opening data centers in locations that have lower power costs and lower taxes, Dana says. AMD is moving away from high cost-per-watt places like Boston and California and instead locating data centers in places like Suwanee, Ga.

Dana has a list of 40 physical factors to take into account when deciding where to put a data center, including weather patterns, water sources, available electricity and proximity to transit.

Choices have to be made carefully, because something as simple as a nearby rail line could cause vibrations that harm server operations, he says.

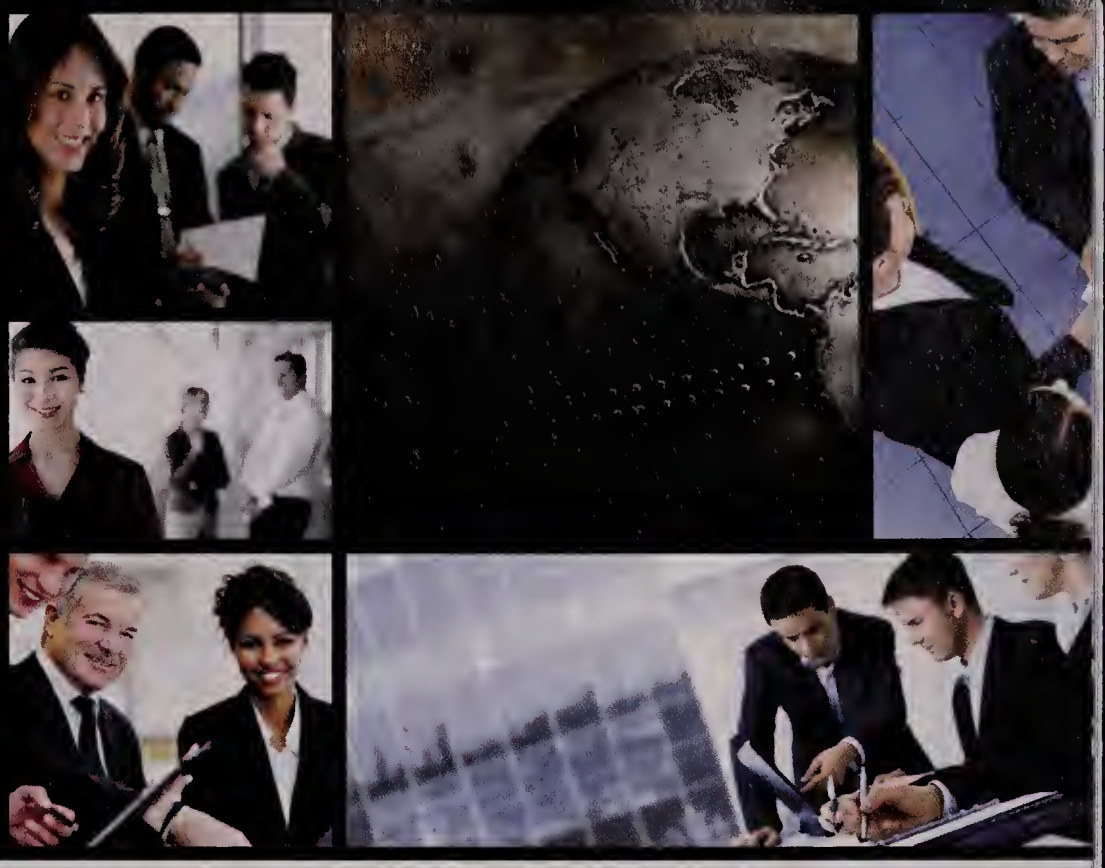
But while downsizing, Dana wants to ensure that engineers still have access to the resources needed to design chips. AMD is trying to consolidate servers and improve utilization rates to reduce expenses such as electric bills. The company is also reducing network latency so engineers get quicker access to servers.

AMD is operating a private cloud that makes key chip-design applications accessible to engineers worldwide. The engineering tasks are executed in real time across a virtual grid of servers that has 120,000 CPU cores. AMD tries to maintain close to a 100 percent utilization rate, and uses virtualization tools that make the grid seem like one "giant number-crunching machine," Dana says.

–Agam Shah

Pathways

Advancing Business,
Technology & Leadership Excellence



Proven IT Leadership Development Designed and Led by Future-State CIOs

- Chart your own path based on career aspirations and goals
- Identify opportunities across known IT competencies
- Learn from high-profile, experienced CIO mentors
- Tailor participation within three areas of professional development
- Utilize Boston University and Harvard Business Publishing courseware

Pathways: Start Your Journey Today

THE FUTURE→STATE CIO®

Visit: council.cio.com/pathways
Call: +1 508.766.5696
Email: cec_info@cio.com

Powered by

CIO Executive Council
Leaders Shaping the Future of Business

Can Google Apps Unseat Outlook?

Consumer IT can make cloud tools more attractive, but a pilot at New England BioLabs revealed some surprises

BY JAMES A. MARTIN

In an IT environment of MacBooks, Windows PCs, iPads and Android devices, why would any enterprise stick with Microsoft Outlook for email and collaboration?

That question prompted a 60-day pilot late last year at New England BioLabs, a molecular biology company. The goal was to determine if Google's software-as-a-service (SaaS) suite could provide a single, unified email and collaboration platform for the entire company, including its international subsidiaries.

"Many of us went into the process thinking this would be a no-brainer," says Ken Grady, the company's CIO. "We figured we'd end up moving to Google, saving a bundle of money, and everyone would be happier. Boy, was I surprised."

Like many organizations today, New England BioLabs has a growing army of mobile users, many of whom use their own devices. "We've given our staff a great deal of freedom, especially the scientific researchers," Grady says. Some 50 percent of the company works on Mac or Linux computers, the rest on Windows.

The company has been an Outlook and Exchange shop for years—it now manages about 500 mailboxes. But given the shifting dynamics of BioLabs' user base and the need to collaborate with people outside the company, Google Apps for Business began to sound like a good collaboration platform.

Some analysts agree that SaaS systems like Google's are gaining traction. Outsourcing the hosting and management of a utility service like email makes sense, according to Melissa Webster, a program vice president at research firm IDC, a sister company to *CIO*'s publisher.

"The need to support a geographically distributed workforce makes a cloud solution attractive," Webster says. "Hosted solutions are usually accompanied by a subscription licensing model, which is very attractive when budgets are constrained."

But cloud collaboration tools aren't for everyone, Webster says. Enterprises usually already have an email and collaboration platform in place, which can make transitioning to a cloud-based system a change-management challenge.

> "Many of us went into the process thinking this would be a no-brainer. Boy, was I surprised."
>
> –Ken Grady, CIO, New England BioLabs

That's exactly what happened at New England BioLabs. Along with email, the IT team wanted to add collaboration tools such as chat or instant messaging, video and Web conferencing, and presence tools.

The test involved 24 employees who had used Gmail as their personal email account. Fewer than half were from IT. The rest were spread across the company.

"We knew if we went with Google, it would be a big change. We wanted people for the test who were likely to be change champions," says Grady.

The testers proved to be the opposite, says Grady. "[We] quickly figured out we really, really like Outlook—even when we think we don't. We know how to make it work."

Of all the apps tested, Google Docs received the most positive response from testers because of its self-service setup and ease of use for collaboration, Grady says. But BioLabs users also wanted to work on documents offline, a capability the app doesn't offer.

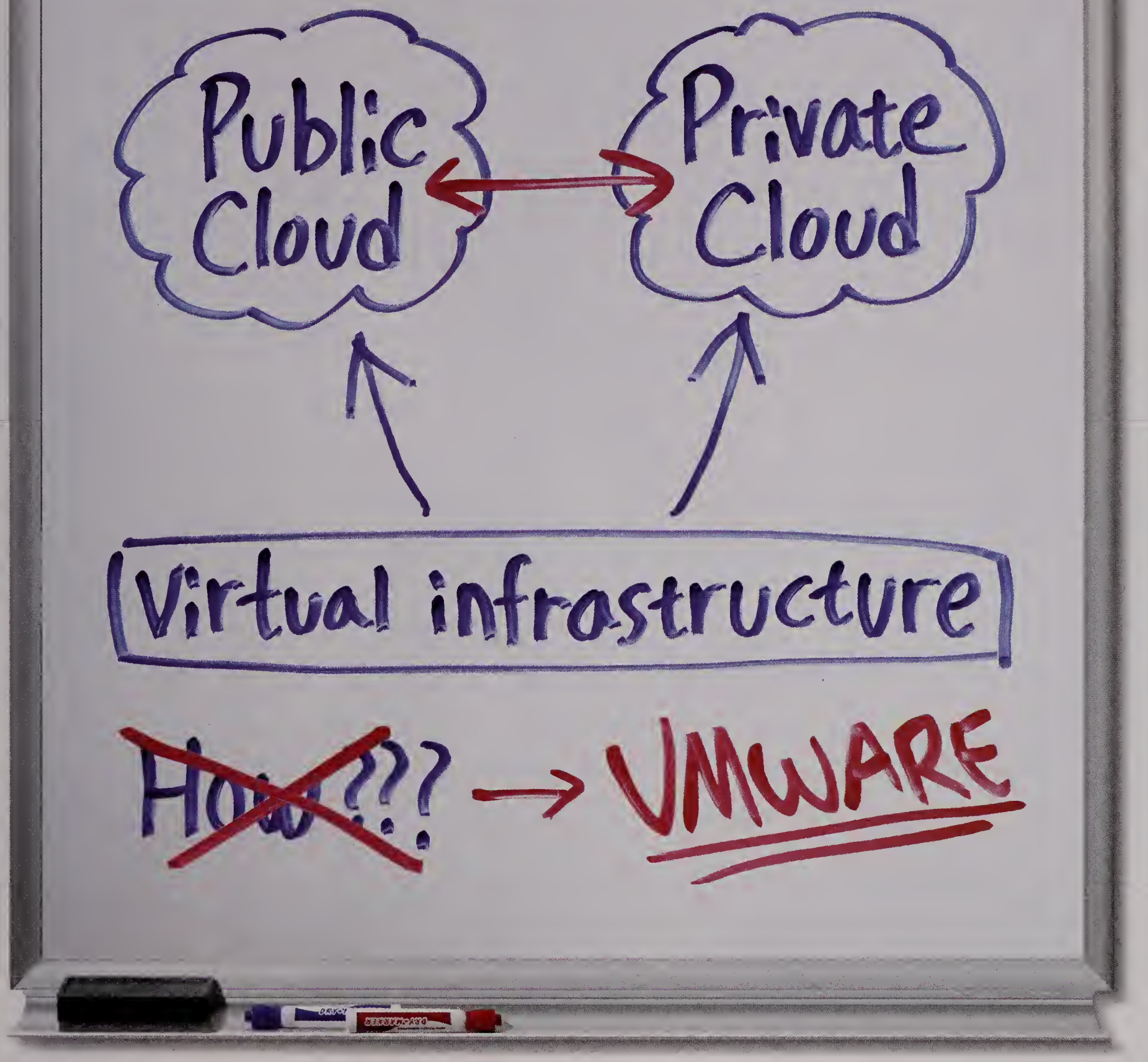
Gmail presented another obstacle. Most users have years of archived email in Outlook, which is organized using Outlook's folder structure, Grady says. In lieu of folders, Gmail organizes messages by label and uses Google search technology to help you find older emails.

"The idea of just using search as an organizational tool sounds good in theory, but the mental leap of getting used to the differences was higher than we expected," Grady says. "And that raised a question: How much value do users get from teaching themselves how to use email all over again?"

In the end, 90 percent of testers said no to switching to Google. The 10 percent who voted yes were all in IT. New England BioLabs decided to stick with its existing Outlook and Exchange Server and plans to transition to a hybrid solution that adds the cloud-based Microsoft Office 365 for remote and international users.

James A. Martin is freelance writer based in California.

Copyright © 2011 VMware, Inc.



Today, 97% of the Fortune Global 500 rely on VMware,® the global leader in virtualization. We helped your enterprise become cloud-ready. Now that you're embracing cloud computing, we offer the best path to a secure, managed and controlled environment. Because it's not just about getting to *the* cloud. It's about getting to *your* cloud.

vmware®

The power behind your cloud.

Visit vmware.com/whiteboard

Unlikely ALLIES

CIOs and CMOs must overcome their differences and learn to collaborate. **Here are 6 tips for forging a partnership with marketing.**

BY MINDA ZETLIN

It seemed so straightforward. The marketers at Genworth Financial Wealth Management wanted to launch a new project and hired an outside consultant to help. Three months into the contract, the consultant requested some data about Genworth's project plans. But when Genworth's marketers twice tried to upload the data, nothing happened. So they called the company's tech support for help—the first time they'd alerted IT to what they'd considered a pure marketing project.

It turned out the consultancy was trying to use a cloud-based tool for collaboration. And Genworth's security controls automatically blocked any such upload to the public cloud. The failed transfers merely meant that the block was working correctly.

"It was the kind of thing that could have led to a screaming match between the CIO and the CMO," says John Murray, CIO of Genworth Financial Wealth Management, a unit of the Fortune 500 parent company Genworth Financial.

Except for one thing: This CIO-CMO pair have an unusually strong and trusting relationship.

"I have empathy for what drives her business," Murray says of Myra Rothfeld, the unit's CMO. "And she has empathy that if we get hacked, no one is going to call the CMO."

That empathy came into play when Murray found out about the attempted upload. "How could they know that the brand-name vendor they chose was going to use a cloud-based project management system?" he asks. "It wasn't their fault."

So when his staff told him about the situation and added that they planned to deny the request for the upload, Murray insisted that they respond with more than a simple "no." Instead, he and his IT staff looked for alternative ways to help marketing achieve its business goal. "Do we allow them to VPN into our environment? Do we set up a SharePoint connection for them?"

Perhaps as important as finding an alternate solution was the style of communication, he says. "We

PHOTO BY STEVE NIEDORF

At Digi-Key, CMO **Tony Harris** (left) and CIO **John Collins** tell staffers that they're jointlyresponsible for the success of the consumer experience.

didn't say: 'You can never do this, so just go away.' They have schedules and deliverables, and if you throw a monkey wrench into their gears and force them to stop and negotiate with IT for a week, they aren't going to like that. It helps if you go into the conversation knowing that, and say something like, 'I'm very sorry to do this to you, but you can't do this. Here's how we can work together to try to solve this. And by the way, when you're picking vendors in the future, we can get involved early in the process to make sure you don't have this problem again.'"

Thanks to this approach, the incident only served to strengthen the partnership between marketing and IT at Genworth Financial Wealth Management. And indeed, IT is now invited to assess vendors before marketing commits to them. "Sometimes it's a deep assessment, sometimes it's very quick because the project won't touch our technology," Rothfeld says. "But I do think it's critical, even though it's an added step. Because I don't think it's possible for anyone on the business side to understand what technology a new project will affect."

Natural Conflict

Given their respective roles, it's easy to see why CIOs and CMOs come into conflict. "If you think about a CIO's job holistically, they have some things on their plate that are not on the CMO's plate, and the CMO has some things not on the CIO's plate," Murray says. "I have to worry about risk management. For some CIOs, any year in which nothing happens is a win, so any change brings risk. Meantime, CMOs are in a perpetual state of dating, trying constantly to keep the customer interested."

The result is that each has a completely different attitude toward risk. From a purely IT perspective, risk is best avoided whenever possible, but that kind of thinking can hobble a company. "You have to understand that having a growing business means it's going to undergo some amount of dynamic change," Murray says.

Part of the problem is that traditional IT compensation schemes reward risk-averse behavior, such as meeting minimum uptime metrics, says Frank Cutitta, CEO of the Center for Global Branding and a research associate for the CSC Leading Edge Forum, an IT think tank. There is no incentive to try something new.

The result: "Marketing sees IT as the land of *slow* and *no*. And IT sees marketing as unguided missiles," says Cutitta. He spent six months interviewing CIOs and CMOs about their relationships in a project commissioned by the forum.

A second issue is that marketing and IT have completely different concepts of time. Most IT departments say they use agile development methodologies, and both functions agree on the need for speed to market. They just don't agree on how fast that is.

"IT would be doing things in a way that seemed very agile to them," Cutitta says. "But marketing didn't feel that IT was agile at all, as they defined it. It was lethargic, from their point of view."

Most of the CIOs and CMOs Cutitta interviewed think relations between CIOs and CMOs are not getting any better. "Our initial findings are that about 40 percent of the CIOs and CMOs we interviewed feel there is a marked improvement in the relationship," Cutitta says. "About 40 percent say it's the same, and about 20 percent say it has deteriorated as marketing set up shadow IT organizations."

And, he says, in companies where relations were seen as improving, it was often due to a big change at the top of the organization. "Improvement occurred with the appointment of C-level management that wanted to install a culture of technology in the enterprise," he says.

Even without a change at the top, though, there are several things that smart CIOs and CMOs can do to bring their departments into harmony. Here's a look at some of them:

1 Rally 'Round the Customer

One way IT and marketing can quickly get on the same page is if both focus their attention on customers. "Realize that the CIO and his or her team is an extension of the marketing team, and they're enabling marketing to better serve customers," says Glen Hartman, global managing director of digital consulting at Accenture. "Taking customers from awareness to conversion to sales to loyalty—which marketing typically focuses on—needs to be just as important to the CIO as it is to the CMO."

Why Marketing Goes *Rogue*

Hint: They want it done fast, and vendors are knocking on their door. Help them resist the temptations.

Rogue or shadow IT—when business departments make their own arrangements with external vendors without consulting IT—is the bane of many CIOs. But from a marketing department's perspective, it's easy to understand the appeal.

"As marketers, we're used to asking: How can I get this done fast, and how can I spend less?" says Myra Rothfeld, CMO at Genworth Financial Wealth Management. "If you're working with your own large and complex IT organization, it doesn't feel fast or cheap."

To make matters worse, many technology vendors have discovered the marketing automation market, Rothfeld says. "I think it's particularly easy to do these days because there are so many IT vendors, consultants and specialists who find that market very desirable." In fact, she says, "You have to really decide not to do shadow IT."

It's a decision worth making. "As marketers, our objective is to build better, faster client experiences," Rothfeld says. "I personally have found that the best way to do that is within the structure of the leadership team, and with marketing staff who have a deep understanding of technology."

In the end, resisting the temptation to go rogue should pay off for marketing and the company as a whole. "It's really about competitive advantage," says Glen Hartman, global managing director of digital consulting at Accenture. "Rogue IT systems are usually siloed. Whichever companies can do the hard work of getting the CIO and CMO connected will be able to outpace their competitors." —*M.Z.*

SMARTER VISUAL INTELLIGENCE



FREE
30 DAY
TRIAL

iDashboards
Driving Business Decisions

iDashboards is smarter visual intelligence, bringing together an intuitive user-interface, one of a kind features and quick implementation in a single dashboard platform. Users can experience their data on a new level with iDashboards' patented Interactive Intelligence and exclusive ViFrame. Not only is iDashboards the best visually, but we make dashboards accessible to the entire organization, without the costly and long-term commitment of a large BI solution. Install with ease and build dashboards with a few clicks of the mouse.

Patented Interactive Intelligence • ViFrame™ • Gallery Charts • Live LCD Dashboards

www.iDashboards.com/v75



At Genworth Financial Wealth Management, CIO **John Murray** and CMO **Myra Rothfeld** make sure that IT and marketing have shared responsibility for choosing new hires.

PHOTO BY MELISSA BARNES

For many IT departments, this means rethinking who their customers are. "When tech people say 'customer,' they often mean internal customers, and therein lies the problem," Cutitta says.

But in some companies, IT is already learning to focus on the customer, while marketing is becoming increasingly steeped in technology. With the growing focus on digital marketing, and more recently on data analysis, marketing today requires solid technical and analytic skills. As a result, an increasing number of IT employees are finding that their career paths lead them into marketing departments.

"There's a domain convergence going on between marketing and technology," Murray notes. "It's not that uncommon these days to see someone who's a senior product person and has a computer science degree. Twenty years ago, that would have been unusual."

2 Take Joint Responsibility

Having a CIO and CMO able to work well together is essential for Digi-Key, which sells a wide array of electronic components. Very wide: the company offers more than 2.15 million different items. It used to sell them via a catalog that was more than 2,300 pages thick, but a few years back it wisely chose to move to an e-commerce model instead. Today, the company has 81 websites in 10 languages, "and growing," according to CMO Tony Harris.

Harris, who arrived at the company about five and a half years ago, knew he needed a solid technological partner—what he calls "a corporate soul mate"—to make this transition. He helped recruit John Collins to be the company's CIO.

Collins and Harris not only talk several times a day but are so completely on the same page that they literally finish each other's sentences. "You can't have a single perspective on how to develop and deploy e-commerce websites," Harris says. "One thing that can happen in some companies is that you design it based on IT's concept, they build it, and it doesn't look anything like what we wanted. But IT says if they did it our way it wouldn't be compliant and the functionality wouldn't work..."

"...and the battle rages from there," Collins says. "Instead, we ask ourselves: What's the ultimate result we want for our customers?"

"We work hard to beat customers' expectations and have a consistent user experience," Harris continues. "I have customer interface studies, and guess who is part of those studies? IT. Even if we're just looking at it from the customer's side, IT is in the room."

And in the trenches. "We do have cross-functional teams," Collins says. "But Tony and I also sat down with all the team members from marketing and IT and said, 'Here's where we want to go and we're going to hold all of you jointly responsible and accountable for the products that are delivered.' Everybody has skin in the game."

Harris says it's more than just collaboration. "We take a dif-

ferent spin: It's ownership, at every level. There's no way to cut and run. Everyone has fingerprints on it, and everyone's responsible." (To figure out whether your collaboration is working well, see "How to Tell if You've Got a Good Relationship With Marketing," *www.cio.com/article/706773*.)

3 Share Your Team Members

Cross-functional work teams, rotating team members through positions in the marketing department, and embedding them in marketing are all effective ways to strengthen the marketing-IT partnership. But so is simply attending each other's meetings.

"What happens is people tend to say things about another department—until that department is in the room," says David Cooperstein, a Forrester Research analyst. "So that mere act of having someone in the meeting already tempered a lot of bad behavior and misconceptions about what each department does."

It can also help to dedicate one or more IT team members to meeting the marketing department's needs. "One thing we've seen as a best practice is handing over staff to the marketing team, whose responsibility is to deliver marketing projects," Cooperstein says. That should be their only responsibility, he adds, so that when marketing needs them they won't be focused on getting SAP running or making sure the phones are working. "It has to be someone who is fast and agile and willing to make changes on the fly."

And some truly forward-thinking companies are creating independent groups where team members from IT and marketing can work together on specific projects. These teams go by different names, such as collaborative innovation centers, Cutitta says. Such innovation centers can dramatically improve the IT-marketing partnership by removing the pressures and distractions of the employees' usual workday. "They're designed to break the IT-marketing collaboration all the way out of office politics," he says.

4 Help Each Other With Hiring

At Genworth Financial Wealth Management, part of building a tight partnership between the people in IT and the people in marketing is giving each group a vote about who those people are. "There has to be mutual respect, starting from the top," CIO Murray says. "It's explicit and intentional and not accidental. When I interview senior people, they all interview with marketing before we hire them. And when they hire a product person, he or she interviews with my team. We can say something like, 'This person isn't technically savvy enough,' or, 'Our stipulation for buy-in is that you make him or her understand how we work.'"

This ensures that IT and marketing have shared responsibility for personnel decisions. "You can't go to the marketing department and say, 'I hate that product manager,' because you were involved in getting that person hired," Murray says.

5 Find Ways to Give Up Control

This recommendation may seem counterintuitive. After all, one of IT's biggest motivators for working more closely with marketing is the desire to reduce or eliminate rogue IT, in which marketing departments simply purchase outside services—often cloud-based—rather than waiting for IT staff to meet their needs. (See "Why Marketing Goes Rogue," Page 30.)

> "That's a lot of the key to our success. *We never have turf issues.*"
>
> -John Collins, CIO, Digi-Key

But one of the most effective ways to retain overall control of your company's technology is to give up that control whenever you don't need it. At Digi-Key, Harris needed a way to rapidly add new content and new products to the company's many websites. So Collins took an unorthodox approach: He divided Digi-Key's websites into two completely separate entities. One is the product marketing pages; the other is the transactional pages where a product is searched for and priced, payment and shipping info is entered and purchases are made.

Then his IT team created a robust content-management system and gave complete control over the product marketing pages to Harris and his marketing team.

"Maybe a lot of CIOs wouldn't want to give up that control," Collins says. "That's a lot of the key to our success. We never have turf issues."

There are no governance, compliance or regulatory problems, he adds, because of the complete separation between the product sites and the transactional sites. "There is no private information on those sites, and the transactional sites are under IT control. They're highly secured and [payment-card industry]-compliant. And no one from marketing has a need to be in that environment."

6 Celebrate Together

"When you are enabling marketers through data and technology, it's a good idea to have the CIO and the CMO take credit together for certain kinds of wins," Accenture's Hartman says. "It doesn't have to be just an effective marketing campaign. It can be a cost [reduction]. Maybe the company has 15 different brands running 15 different products with different security issues. Consolidating all that would be a big win."

Such celebrations are an important feature of working in marketing or IT at Digi-Key. "Our mantra is: 'Do great work, do brave work, and have fun!'" Harris says. Digi-Key is the market leader in many product areas, he adds, and the only way to maintain that position is to take risks.

"To do great work, you've got to be brave," he says. "We celebrate our wins—proud of them, too. Any major project that comes through, you better believe the IT and marketing teams are sitting somewhere not far from the office having dinner and cake and ice cream. We celebrate every single win together."

That kind of bonding is all-important, Murray says. "Then you have enough in the karma bank to get you through the tough times." CIO

Minda Zetlin is a business technology writer based in New York.

SALES AND SERVICES

EXECUTIVE COMMITTEE

President & CEO
Michael Friedenberg
508-935-4274

Executive Assistant to the President & CEO
Pamela Carlson • 508-935-4274

SVP of Human Resources
Patricia Chisholm
508-935-4734

SVP of Events
Ellen Daly • 508-935-4273

SVP & Chief Content Officer
John Gallant • 508-766-5426

SVP of Digital
Brian Glynn • 508-935-4586

SVP of Strategic Programs & Custom Solutions Group
Charles Lee • 508-935-4796

SVP, Group Publisher & CMO
Bob Melk • 415-975-2685

SVP &General Manager, Online Operations
Gregg Pinsky • 508-271-8013

SVP of DEMO
Neil Silverman • 508-766-5463

SVP & COO
Matthew Smith • 508-820-8102

SVP & General Manager, CIO Executive Council
Pam Stenson • 508-935-4089

SVP of Digital, & Publisher
Sean Weglage • 415-978-3314

SALES

Publisher Emeritus
Gary J. Beach • 508-935-4202

VP & Publisher
Adam Dennison • 508-935-4087

Sales Operations Manager
Christine McKay
508-988-7836

Senior Sales Operations Coordinator
Bethany Whiffin
508-935-4092

Sales Operations Coordinator
Megan Roman • 508 820-8123

EAST COAST

Account Director, Integrated
Ellie St. Louis • 201-634-2332

Account Coordinator
Lindsay Perkins • 508-766-5345

NEW ENGLAND/CENTRAL

Account Director, Integrated
Brian Keenan • 847-508-8428

Account Coordinator
Stephanie Moran • 508-935-4154

WEST COAST

Regional Sales Director, Integrated
Kevin Ebmeyer • 415-975-2684

Account Coordinator, Integrated
Marty Anderson • 415-975-2683

Account Director, Integrated
Ai Collins • 415-975-2686

Account Coordinator
Lauren Eckenfelder
415-935-2687

ONLINE SALES

Account Director, Digital, East Coast
Richard Hartman
508-935-4487

Account Directors, Digital, West Coast
Carmen Facas • 415-975-2681
Erika Karr • 415-978-3329

Director of Ad Operations & Project Management
Bill Rigby • 508-820-8111

Director of Online Account Services
Danielle Thorne
508-988-7969

Online Account Services Team Leads
Beverly Lloyd • 508-988-6765
Tara Shea • 508-988-7877

PRODUCTION

VP, Production Operations
Chris Cuoco • 508-988-7565

Production Manager
Lisa M. Stevenson
508-935-4591

LIST SERVICES

Contact Stephen Tozeski of IDG List Services at 508-766-5633 or *stozeski@idglist.com*.

CIO is published in the U.S. as well as in:

Argentina, CIO Cono Sur
http://conosur.cio.com
Australia, CIO Australia
www.cio.idg.com.ou
Brazil, CIO
www.cio.com.br
Bulgaria, CIO Bulgaria
www.cio.bg
Canada, CIO Canada
cio.itworldcanodo.com
China, CEOCIO China
www.ceocio.com.cn
Finland, CIO
www.cio.fi
France, CIO France
www.cio-online.com
Germany, CIO IT-Strategie für Manager
www.cio.de
India, CIO India
www.cio.in
Japan, CIO Magazine Japan
www.ciojp.com
New Zealand, CIO New Zealand
www.cio.co.nz
Norway, CIO Computerworld Forum
www.idg.no/cio
Pakistan, CIO Pakistan
www.ciopokiston.com
Poland, CIO
www.cio.cxo.pl
Portugal, CXO
www.cxo.com.pt/
Russia, Chief Information Officer Magazine
www.cio.ru
Singapore, CIO Asia
www.cio-osio.com
South Korea, CIO Korea
www.ciokoreo.com
Sweden, CIO Sweden
www.cio.idg.se
Taiwan, CIO Taiwan
www.cio.com.tw
United Kingdom, CIO Magazine
www.cio.co.uk

INDEX OF COMPANIES AND ADVERTISERS

Page numbers refer to the first page of the article(s) in which the company has a substantial mention. This index is provided as a service to readers. The publisher does not assume any liability for errors or omissions.

COMPANY INDEX

Accenture Plc. 30
Advanced Micro Devices, Inc. 24
Aetna, Inc. 20
Center for Global Branding 30
Chevron Corp. 19
ComScore, Inc. 13
CSC Leading Edge Forum 30
Digi-Key Corp. 32
Forrester Research, Inc. 14, 24, 33
Genworth Financial Wealth Management, Inc. 4, 28, 30
Hunton and Williams LLP 22
Minnesota Privacy Consultants 22
National Oceanic and Atmospheric Administration 36
New England BioLabs, Inc. 26
Oblong Industries, Inc. 16
Syncsort, Inc. 13
The Boeing Company 16

ADVERTISER INDEX

AT&T C3
CenturyLink Business 5
CIO Executive Council 25
CIO Peer2Peer Research Panel 35
Cisco Systems, Inc. 17
Dassault Systemes 7
EMC Corp. 23
Hewlett-Packard Development Company, L.P. 9
IBM Corp. C2
iDashboards 31
Monster 15
Motorola 12
NTT Data 2
SAS C4
Super Micro Computer, Inc. 11
Verizon 21
VMware 27

CIO CONTACT INFORMATION

Editorial, Advertising and Business Offices: CXO Media Inc., 492 Old Connecticut Path, P.O. Box 9208, Framingham, MA 01701-9208, 508 872-0080.

CIO (ISSN 0894-9301) is published monthly, with additional issues in May, June, September, October and November by CXO Media Inc. Periodicals postage paid at Framingham, MA, and at additional mailing offices. Canada Publications Mail Agreement Number PM40063731. CANADIAN POSTMASTER: Please return undeliverable copy to P.O. Box 1632, Windsor, ON N9A 7C9.

Reprints & Permissions: For information about reprints and copyright permissions, please contact The YGS Group, 800-290-5460, ext. 100, *cio@theygsgroup.com*.

Photocopy Rights: Permission to photocopy for internal or personal use or the internal or personal use of specific clients is granted by *CIO* for users through the Copyright Clearance Center, provided that a fee of $3.50 per copy of the article is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01970. www.copyright.com. Please specify: ISSN 0894-9301. Permission to photocopy does not extend to contributed articles followed by this symbol: ‡.

Subscriptions: *CIO* is free to qualified information executives. To apply, use our online subscription form at *http://www.cio.com/subscription-services*. Subscriptions are also available on a paid basis at a rate of $129 for the United States and Canada, $195 International (payable in U.S. funds only) and may be ordered online at *http://www.cio.com/subscription-services*. Or address inquiries to *CIO*, P.O. Box 489, Northbrook, IL 60065-0489; 866 354-1125. Please allow four to six weeks for a new subscription to begin. The single copy price is $9 for the United States and Canada, and $15 International. Digital annual subscription $29. Prepayment is required, payable in U.S. funds.

Change of Address: Please go to *http://www.cio.com/subscription-services* and follow the online instructions.w

Postmaster: Send change of address to *CIO*, P.O. Box 489, Northbrook, IL 60065-9816. Printed in the U.S.A.

PEER2PEER > RESEARCH PANEL

SHARE opinions and **best practices** with your peers by participating in short surveys, interviews, and mini polls about current technology issues and strategies.

GAIN access to our **Panel member website**, where you can download survey results and White Papers, and other assets created from peer research.

TAKE advantage of opportunities to **win prizes** such as cash, gift cards, and the latest electronics for each survey that you participate in.

Visit www.ciopeer2peer.com to join and share opinions with your peers about a variety of technology and business related topics.

More than 3,000 of your peers joined

Join CIO's Peer2Peer Research Panel and make your opinions count

CIO
Custom Solutions Group



finish



Right of Whale

There are fewer than 550 North Atlantic right whales left on earth, and being hit by a ship is their number one cause of death. To protect the remaining animals, the National Oceanic and Atmospheric Administration (NOAA) developed Whale Alert, a free app designed to be used in the Stellwagen Bank National Marine Sanctuary. Available on iPads and iPhones, the app relays real-time information from acoustic buoys and other sources that pick up the whales' sounds and report their locations via satellite. It includes a map that lights up with bright yellow icons when a whale was heard nearby in the last 24 hours, and mariners navigating shipping lanes can use it to get suggested travel speeds and find what areas to avoid. David Wiley, research coordinator and scientist at NOAA, says he'd like to add more details and eventually develop similar apps for other endangered animals. "We're hoping to make it more important for mariners, and that when people see [its] popularity, more conservation apps will be produced." *–Lauren Brousell*

PHOTO BY THINKSTOCK

An idea is born.

Ideas come to life
in the AT&T network.

In here, the right minds from inside and outside the company can come together in the cloud to work out a new car-seat design.

Global production partners can meet face-to-face on video apps to figure out where, when and how to bring it all together.

Social media gives moms and dads a chance to weigh in. And what started as a new idea becomes the new must-have.

In here, innovation turns into new business. To learn more, visit att.com/business



INSPIRATION

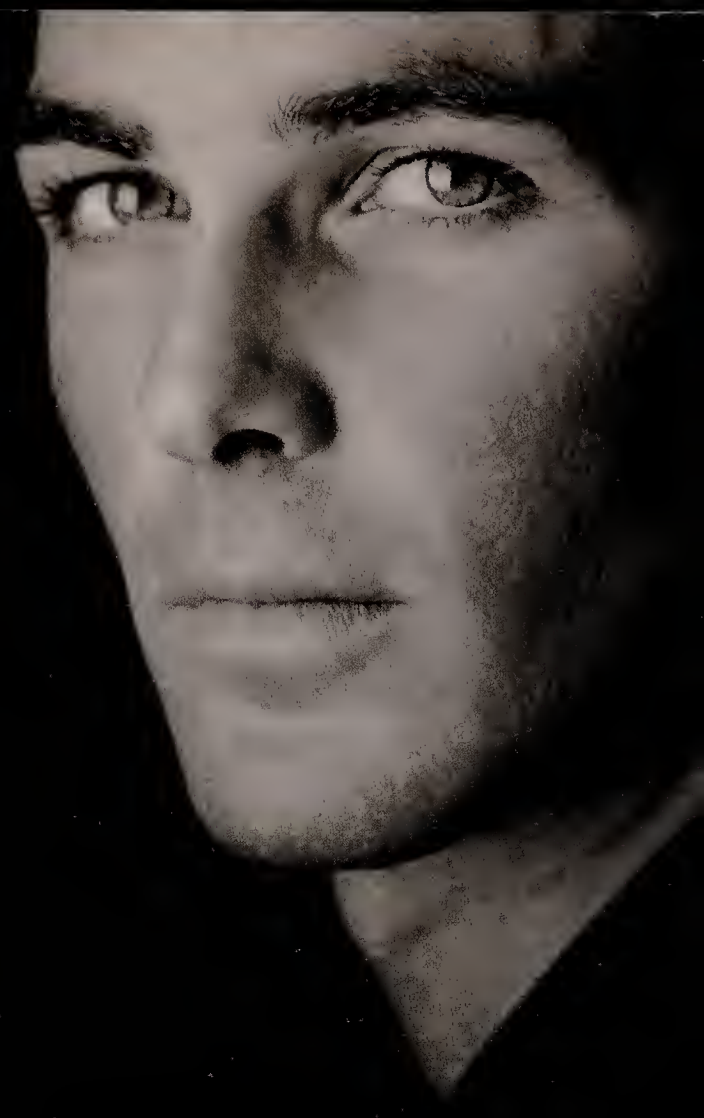
INNOVATION

Rethink Possible

Download the free scanner app at http://scan.mobi and scan this code to learn more.

© 2012 AT&T Intellectual Property. All rights reserved. AT&T, the AT&T logo and all other AT&T marks contained herein are trademarks of AT&T Intellectual Property and/or AT&T affiliated companies.

THE BUSINESS VALUE BEHIND BIG DATA



When organizations get to the point where their volume, velocity and variety of data exceed storage or computing capacity, there are some big challenges – but even bigger opportunities to achieve unprecedented business value. So, where do they turn when looking for optimal ways to gain insights from these larger data sets in shorter reporting windows? They turn to SAS®.

Speed to insight

From banking and retail to health care and insurance, SAS is helping industries gain insights that once took weeks and days – in just hours, minutes and seconds. It's all about getting to the relevant data quicker, revealing previously unseen patterns, sentiments and relationships, delivering that information into a real-time architecture and speeding the time to insights.

High-performance analytics from SAS

Combining industry-leading analytics software with high-performance computing technologies produces fast answers to previously unsolvable problems – and enables our customers to gain competitive advantage. SAS Grid Computing creates a centrally managed, shared environment for processing large jobs and a growing number of users efficiently. SAS In-Database builds analytic logic into the database itself for improved agility and governance. And SAS In-Memory Analytics eliminates the need for disk-based processing, allowing for much quicker response times. Together, the components of this integrated, supercharged platform are changing the decision making landscape – and resetting how the world solves business problems. Find out more about how SAS can help you realize the business value achieved from capitalizing on complexity.

A leading bank reduced loan default calculation times from 96 hours to just 4.

A major retailer reduced the time it takes to optimize store-specific pricing each week from 30 hours to 2.

sas.com/bigvalue

sas

THE POWER TO KNOW®

Each SAS customer's experience is unique. Actual results vary depending on the customer's individual conditions. SAS does not guarantee results, and nothing herein should be construed as constituting an additional warranty. SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries. © 2012 SAS Institute Inc. All rights reserved. S91234US.0512